02-8904-42-PA
REV. NO. 0

FINAL DRAFT
PRELIMINARY ASSESSMENT
LIBERTY HEAT TREATING CO.
OZONE PARK, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8904-42
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

JUNE 30, 1989

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

JOANN L. WAGNER
PROJECT MANAGER

JOSEPH DVORAK
SITE MANAGER

REVIEWED/APPROVED BY:

RONALD M. NAMAN
FIT OFFICE MANAGER

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT

PART I: SITE INFORMATION

1. Site Name/Alias Liberty Heat Treating Co., Inc.

   Street 100-15 94th Avenue

   City Ozone Park State NY Zip 11416

2. County Queens County Code 081 Cong. Dist. 6

3 EPA ID No. NYD053169694

4. Latitude 40° 41' 18"N Longitude 73° 50' 37"W

   USGS Quad. Jamaica, NY

5. Owner Liberty Heat Treating Co., Inc. Tel. No. (212) 845-3150

   Street 100-15 94th Avenue

   City Ozone Park State NY Zip 11416

6. Operator Liberty Heat Treating Co., Inc. Tel. No. (212) 845-3150

   Street 100-15 94th Avenue

   City Ozone Park State NY Zip 11416

7. Type of Ownership

   ☒ Private ☐ Federal ☐ State
   ☐ County ☐ Municipal ☐ Unknown ☐ Other _____

8. Owner/Operator Notification on File

   ☐ RCRA 3001 Date _____ ☐ CERCLA 103c Date _____
   ☐ None ☒ Unknown

9. Permit Information

Permit	Permit No.	Date Issued	Expiration Date	Comments

The facility did not hold a state (SPDES) or Federal (NPDES) permit. (Ref. No. 25)

10. Site Status

    ☐ Active ☒ Inactive ☐ Unknown

11. Years of Operation January 1, 1941 to August 17, 1988

12. Identify the types of waste units (e.g., landfill, surface impoundment, piles, stained soil, above- or below-ground tanks or containers, land treatment, etc.) on site. Initiate as many waste unit numbers as needed to identify all waste sources on site.

(a) Waste Management Areas

Waste Unit No.	Waste Unit Type	Facility Name for Unit
1	Container	Outside Storage Area
2	Discharge to City Sewer System	

(b) Other Areas of Concern

Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

No miscellaneous spills or incidents of dumping have been reported on site.

13. Information available from

Contact Amy Brochu Agency U.S. EPA Tel. No. (201) 906-6802

Preparer Joseph Dvorak Agency NUS Corp. Region 2 FIT Date 6/30/89

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following six items.

Waste Unit 1 - Container, Outdoor Storage Area

1. **Identify the RCRA status and permit history, if applicable, and the age of the waste unit.**

   The facility notified the U.S. Environmental Protection Agency (U.S. EPA) as a generator/TSD facility for protective purposes. On December 24, 1980 it requested a small quantity generator exemption and on June 21, 1982 it requested to be declassified from generator/TSD status to generator only status. The facility was listed as a small quantity generator in the RCRA inspection report done on December 28, 1980. The facility is believed to have begun operations on January 1, 1941.

2. **Describe the location of the waste unit and identify clearly on the site map.**

   While the facility was in operation, the container was located in the outdoor salt storage area on the east side of the building.

3. **Identify the size or quantity of the waste unit (e.g., area or volume of a landfill or surface impoundment, number and capacity of drums or tanks). Specify the quantity of hazardous substances in the waste unit.**

   The container had an approximate capacity of 187 gallons. During a New York State Department of Environmental Conservation (NYSDEC) inspection on April 30, 1985, approximately 150 gallons of waste were in the container. The facility was classified as a small quantity generator of hazardous wastes.

4. **Identify the physical state(s) of the waste type(s) as disposed of in the waste unit. The physical state(s) should be categorized as follows: solid, powder or fines, sludge, slurry, liquid, or gas.**

   The hazardous waste was a sludge.

5. **Identify specific hazardous substance(s) known or suspected to be present in the waste unit.**

   The hazardous waste was generated when metal treated in hot cyanide salt baths was quenched in oil. A sludge settled out which was accumulated in the waste unit prior to treatment and discharge. The waste was known to contain cyanide.

6. **Describe the containment of the waste unit as it relates to contaminant migration via groundwater, surface water, and air.**

   The waste unit was a closed square metal container. It was lined with polyethylene. It was located in the outside storage area. It is unknown whether there were any other containment features associated with this waste unit.

Ref. Nos. 1, 3

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following six items.

Waste Unit 2 - Discharge to City Sewer System

1. **Identify the RCRA status and permit history, if applicable, and the age of the waste unit.**

   The facility does not hold a State Pollutant Discharge Elimination System (SPDES) or National Pollutant Discharge Elimination System (NPDES) permit. Data supplied by the company indicated that its discharge was in compliance with Federal categorical standards and local limits of the New York City sewer use regulations. The facility is believed to have begun operations on January 1, 1941.

2. **Describe the location of the waste unit and identify clearly on the site map.**

   Wastes disposed of in the waste unit were generated in the on-site building. The on-site sewer line discharged directly to the city sewer system, and the location of the facility hookup is believed to be along the front property line adjacent to 94th Ave.

3. **Identify the size or quantity of the waste unit (e.g., area or volume of a landfill or surface impoundment, number and capacity of drums or tanks). Specify the quantity of hazardous substances in the waste unit.**

   In 1982, the company reported that it discharged an estimated 200,000 cubic feet per year of contaminated and process water to the New York City Sewer System.

4. **Identify the physical state(s) of the waste type(s) as disposed of in the waste unit. The physical state(s) should be categorized as follows: solid, powder or fines, sludge, slurry, liquid, or gas.**

   The physical states of the wastes as disposed of in the waste unit were liquid and sludges.

5. **Identify specific hazardous substance(s) known or suspected to be present in the waste unit.**

   The company used molten cyanide salt baths to treat metals. After treatment, the metal parts were then quenched in oil. The sludge generated from this process was known to contain cyanide. The sludge was accumulated on site (see Waste Unit No. 1) and the sludge was treated by an alkaline chlorination procedure to neutralize the cyanide. It was then discharged to the city sewer. The company also generated spent solutions from salt pot cleaning and quenching wastewater treatment sludges, some of which probably also contained cyanide. It is assumed that these wastes were also discharged to the city sewer system and may have been treated in the same way as the oil quench bath sludges. New York City Department of Environmental Protection computer files as of August 15, 1985 indicated that the wastewater generated by Liberty Heat Treating Company should be analyzed for zinc, cyanide (total), lead, chromium (total), nickel, and copper.

6. **Describe the containment of the waste unit as it relates to contaminant migration via groundwater, surface water, and air.**

   The waste unit discharged directly to the New York City Sewer System.

Ref. Nos. 1, 3, 4, 5, 6, 7, 8, 9

PART III: HAZARD ASSESSMENT

GROUNDWATER ROUTE

1. **Describe the likelihood of a release of contaminant(s) to the groundwater as follows: observed, alleged, potential, or none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminant(s) to the facility.**

There is little potential for a release of contaminants to the groundwater. The site is no longer active and there is no evidence showing that any spills or mishandling of hazardous chemicals has occurred on site.

Ref. No. 10

2. **Describe the aquifer of concern; include information such as depth, thickness, geologic composition, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction.**

The geology in the region of the site consists of various unconsolidated deposits lying on top of bedrock. The bedrock surface slopes downward in a southeastern direction, as do the overlying geologic strata. The bedrock acts as a lower confining unit for the overlying aquifers. It is not in itself a commercially usable source of water. The bedrock surface lies at approximately 525 feet below sea level at the site.

The Lloyd Sand Member is deposited on top of the bedrock surface. It extends upward to approximately 410 feet below sea level in the vicinity of the site. The Lloyd Sand Member makes up the Lloyd Aquifer, which is a moderately developed aquifer in Queens County.

On top of the Lloyd Sand Member is the Raritan Clay layer. It extends upward to approximately 250 feet below sea level in the vicinity of the site. It is continuous in the region of the site and acts as an effective confining unit for the Lloyd Aquifer.

The Magothy-Matawan formation is deposited on top of the Raritan Clay. It extends upward to approximately 200 feet below sea level in the vicinity of the site. The Magothy-Matawan formation consists of quartzose sand containing interstitial clay and silt interbedded with clay, silty clay, and sandy clay. The formation is a highly developed aquifer in Queens County.

The presence of two ancestral river channels complicates the geology in the region of the site. One river channel, believed to have been cut by the ancestral Hudson River, exists approximately 1 mile to the east of the site. The river channel has eroded through the Magothy-Matawan formation down to the Lloyd Aquifer. Another ancestral river channel exists approximately 2.5 miles to the west of the site. It has eroded the Magothy-Matawan formation down to the Raritan Clay layer to the west of the site.

Deposited on top of the Magothy-Matawan formation is the Jameco Gravel. The surface of the Jameco gravel lies at approximately 125 feet below sea level in the vicinity of the site. The Jameco gravel extends northward approximately 0.5 mile from the site, where it ends. It also fills in the lower portion of the two ancestral river channels. The Jameco Gravel deposits are mostly coarse sand and granule to cobble gravel. It is a source of water for Queens County.

The next layer on top of the Jameco Gravel is the Gardiners Clay layer. It extends upward to approximately 100 feet below sea level in the vicinity of the site and it fills in the upper portion of the ancestal river channels. The Gardiners Clay does not exist directly to the west of the site and approximately 1 mile to the north of the site. It does not, therefore, act as a confining unit for the Jameco Gravel or the Magothy-Matawan formation in the region of the site. These two aquifers are hydraulically connected to the Upper Glacial Aquifer in the region of the site.

Overlying the various geologic strata and extending upward to the land surface are the undifferentiated Upper Pleistocene deposits. They consist of glacial drift material such as till, lacustrine deposits, and outwash sand and gravel. These deposits form the Upper Glacial Aquifer. Water in this aquifer is under water table conditions.

Ref. Nos. 11, 12

3. **Is a designated sole source aquifer within 3 miles of the site?**

The area included within the geographic boundaries of Kings and Queens counties and extending down to either bedrock surface or salt water is a designated sole source aquifer.

Ref. Nos. 13, 14

4. **What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern?**

The site ground surface lies at an elevation of approximately 50 feet above sea level. The water table in the Upper Glacial Aquifer lies at a depth of approximately 10 feet below sea level directly beneath the site. Salt water intrusion in the Upper Glacial Aquifer has proceeded northward from the Jamaica Bay to cover the entire southern half of the 3-mile radius surrounding the site and has proceeded southward from Flushing Bay to cover a portion of the northern half of the 3-mile radius. However, a portion of the Upper Glacial Aquifer within 3 miles and to the north of the site remains free of salt water. This portion of the aquifer is considered a sole source aquifer, and it is hydraulically connected to the Jameco and Magothy Aquifers in the vicinity of the site. Therefore, all three aquifers constitute the aquifer of concern, and the depth to the water table is approximately 60 feet below land surface.

Ref. Nos. 12, 15

5. **What is the permeability value of the least permeable continuous intervening stratum between the ground surface and the aquifer of concern?**

The intervening strata between the ground surface and the aquifer of concern are those portions of the Upper Pleistocene deposits which lie above the water table in the Upper Glacial Aquifer. The uppermost layer of these deposits consist of outwash deposits, which are highly permeable. The Upper Pleistocene deposits in general consist of till, lacustrine deposits, and outwash sand and gravel. The portion of the Upper Pleistocene deposits which lie between the water table and the surficial outwash deposits have not been clearly characterized in the vicinity of the site; however, the lacustrine deposits are considered to be poorly permeable. The hydraulic conductivity of the lacustrine deposits is estimated to be in the range of 10^{-5} to 10^{-7} cm/sec.

Ref. Nos. 12, 16

6. **What is the net annual precipitation for the area?**

The normal annual total precipitation in Queens County is approximately 44 inches. The mean annual lake evaporation is approximately 32 inches. Therefore, the net annual precipitation for the area is approximately 12 inches.

Ref. No. 16

7. **Identify uses of groundwater within 3 miles of the site (i.e., private drinking source, municipal source, commercial, industrial, irrigation, unusable).**

There are three types of groundwater wells in the 3-mile vicinity of the site. Private supply wells supply water for the irrigation of lawns, filling of pools, and other similar uses. They are nonpotable water supplies. Commercial wells are also common in Queens County and are used for such things as car washes and cooling systems. The third type of wells is public water supply wells. The Jamaica Water Supply Company (J.W.S. Co.) serves an area in southern Queens County, the western section of which falls within 3 miles of the site. J.W.S. Co. currently operates 10 wells within 3 miles of the site.

Ref. Nos. 15, 17, 18, 19

8. **What is the distance to and depth of the nearest well that is currently used for drinking or irrigation purposes?**

Distance Approximately 1 mile Depth 117 ft (Data for Well No. 43)

Ref. Nos. 15, 17

9. **Identify the population served by the aquifer of concern within a 3-mile radius of the site.**

The Jamaica Water Supply Company services approximately 640,000 people within its service area. The area is a heavily populated urban area, and the principal source of water for the company is wells located within its service area. Approximately one-fifth of the Jamaica Water Supply Company service area falls within 3 miles of the site. Therefore, it is estimated that approximately 128,000 people are served from groundwater taken from within 3 miles of the site.

Ref. Nos. 15, 17, 18, 26

SURFACE WATER ROUTE

10. **Describe the likelihood of a release of contaminant(s) to surface water as follows: observed, alleged, potential, or none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminants to the facility.**

There is little potential for a release of contaminants to surface waters. The site is no longer active and there is no evidence of any spills or mishandling of hazardous chemicals at the site.

Ref. No. 10

11. **Identify and locate the nearest downslope surface water. If possible, include a description of possible surface drainage patterns from the site.**

The nearest downslope surface waters are Spring Creek, Ralph Creek, and Shellbank Basin, all of which are approximately 2 miles to the south of the site. However, the site lies in a heavily populated urban area. Because of the high degree of development and intervening roadways in the vicinity of the site, there is no possible overland surface water migration route to the above-mentioned surface waters. Surface water runoff from the site is most likely diverted by nearby storm drains. The point of discharge of the storm sewers is unknown; however, they probably discharge to the Jamaica Bay or to one of the tidal surface water bodies mentioned above.

Ref. Nos. 12, 15

12. **What is the facility slope in percent? (Facility slope is measured from the highest point of deposited hazardous waste to the most downhill point of the waste area or to where contamination is detected.)**

The facility slope was estimated to be less than 1 percent during an off-site reconnaissance conducted on May 1, 1989.

Ref. No. 20

13. **What is the slope of the intervening terrain in percent? (Intervening terrain slope is measured from the most downhill point of the waste area to the probable point of entry to surface water.)**

The probable point of entry to surface water is unknown; therefore, the slope of the intervening terrain cannot be calculated (see Question No. 11).

14. **What is the 1-year 24-hour rainfall?**

The 1-year 24-hour rainfall in Queens County is approximately 2.75 inches.

Ref. No. 16

15. **What is the distance to the nearest downslope surface water? Measure the distance along a course that runoff can be expected to follow.**

It is approximately 2 miles in a straight line to the nearest downslope surface water. However, the course that runoff would follow from the site is unknown. (see Question No. 11).

Ref. No. 15

16. **Identify uses of surface waters within 3 miles downstream of the site (i.e., drinking, irrigation, recreation, commercial, industrial, not used).**

The surface waters that lie within 3 miles downstream of the site are a small portion of Jamaica Bay and several tidal waterways leading into the bay. These are all saline surface waters. The state-designated use of these waters is for secondary contact recreation. They are not considered suitable for primary contact recreation or shellfishing.

Ref. Nos. 15, 21

17. **Describe any wetlands, greater than 5 acres in area, within 2 miles downstream of the site. Include whether it is a freshwater or coastal wetland.**

No wetlands exist within 2 miles of the site.

Ref. No. 15

18. **Describe any critical habitats of federally listed endangered species within 2 miles of the site along the migration path.**

There are no critical habitats of federally listed endangered species located within 2 miles of the site.

Ref. No. 27, 28

19. **What is the distance to the nearest sensitive environment along or contiguous to the migration path (if any exist within 2 miles)?**

There are no sensitive environments located within 2 miles of the site.

Ref. Nos. 15, 27, 28

20. **Identify the population served or acres of food crops irrigated by surface water intakes within 3 miles downstream of the site and the distance to the intake(s).**

There are no fresh water surface waters within 3 miles downstream of the site.

Ref. No. 15

21. **What is the state water quality classification of the water body of concern?**

The surface water quality classification of the tidal waterways emptying into Jamaica Bay is Class "I".

Ref. No. 22

22. **Describe any apparent biota contamination that is attributable to the site.**

No biota contamination has been observed or is suspected.

Ref. No. 20

AIR ROUTE

23. **Describe the likelihood of a release of contaminant(s) to the air as follows: observed, alleged, potential, none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminant(s) to the facility.**

Due to limited information about the current status of the site, it is not possible to fully evaluate the potential for a release of contaminants to the air. On August 14, 1985 a fire broke out at the site. The fire appeared to have been started by "ordinary combustible materials" in the roofing of the on-site building, and was not the result of any chemical reaction or process, according to New York City Fire Chief O'Rourke. In the event of a similar fire, there is a potenital that cyanide which may still be present at the facility would be released to the atmosphere. However, Liberty Heat Treating ceased operations at the facility on August 17, 1988. There is no record of any closure actions taken at the site. The hazards posed by substances that may be present at the site are unknown.

Ref. No. 10

24. What is the population within a 4-mile radius of the site?

Approximately 1,002,000 people live within 4 miles of the site.

Ref. No. 23

FIRE AND EXPLOSION

25. Describe the potential for a fire or explosion to occur with respect to the hazardous substance(s) known or suspected to be present on site. Identify the hazardous substance(s) and the method of storage or containment associated with each.

There is no record of any flammable liquids or solids being stored or used at the site. Liberty Heat Treating Company ceased operation on August 17, 1988. There is, however, no record of any closure actions taken at the site. The potential for fire or explosion to occur due to hazardous substances that may be present at the site is unknown.

On August 14, 1985 a fire broke out at the site. The fire appeared to have been started by "ordinary combustible materials" in the roofing and was not the result of any chemical reaction or process, according to New York City Fire Chief O'Rourke.

Ref. Nos. 10, 24

26. What is the population within a 2-mile radius of the hazardous substance(s) at the facility?

Approximately 271,000 people live within 2 miles of the site.

Ref. No. 23

DIRECT CONTACT/ON-SITE EXPOSURE

27. Describe the potential for direct contact with hazardous substance(s) stored in any of the waste units on site or deposited in on-site soils. Identify the hazardous substance(s) and the accessibility of the waste unit.

There is little potential for direct contact by the public with hazardous substances at the site. The building on site appears to be in sound condition, all doors to the facility are intact, and the windows are barred. There is a chain link fence in fair condition which controls access to the lot adjacent to the building (see photos). The facility ceased operation on August 17, 1988. There is, however, no record of any closure actions or cleanup at the site.

Ref. Nos. 10, 20

28. How many residents live on a property whose boundaries encompass any part of an area contaminated by the site?

It is unknown whether any residents live adjacent to the site.

29. What is the population within a 1-mile radius of the site?

Approximately 76,600 people live within 1 mile of the site.

Ref. No. 23

PART IV: SITE SUMMARY AND RECOMMENDATIONS

Liberty Heat Treating Company is located in Ozone Park, Queens County, New York. The facility is believed to have begun operations on January 1, 1941, and to have shut down on August 17, 1988. There is a single one-story building on site with dimensions of 85 feet by 50 feet. While in operation, the company provided a heat treating service for metals to its clients, which required the use of several hazardous substances. Molten salt baths that used cyanide salts were used to heat treat metals. Phosphoric acid was used for phosphate coating of metals, and hot alkali baths were used for black oxiding metals. In addition, other surface treatment techniques were carried out, including chromating and metal coloring.

After heat treating, some metals were quenched in an oil bath. This resulted in a sludge that was accumulated on site in a metal storage container. The sludge is known to have contained cyanide. The sludge was treated on site to remove the cyanide and was discharged to the city sewer system. Other hazardous wastes resulting from sludges from the salt pots and water quenching sludges were also generated by the facility. These may have been disposed of in a similar manner to that used for the oil quench sludges. The company stated in 1982 that it discharged approximately 200,000 cubic feet of contaminated and process wastewater to the New York City Sewer System. There is no record of the facility being in violation of New York City's pretreatment standards for discharge to the city sewer system.

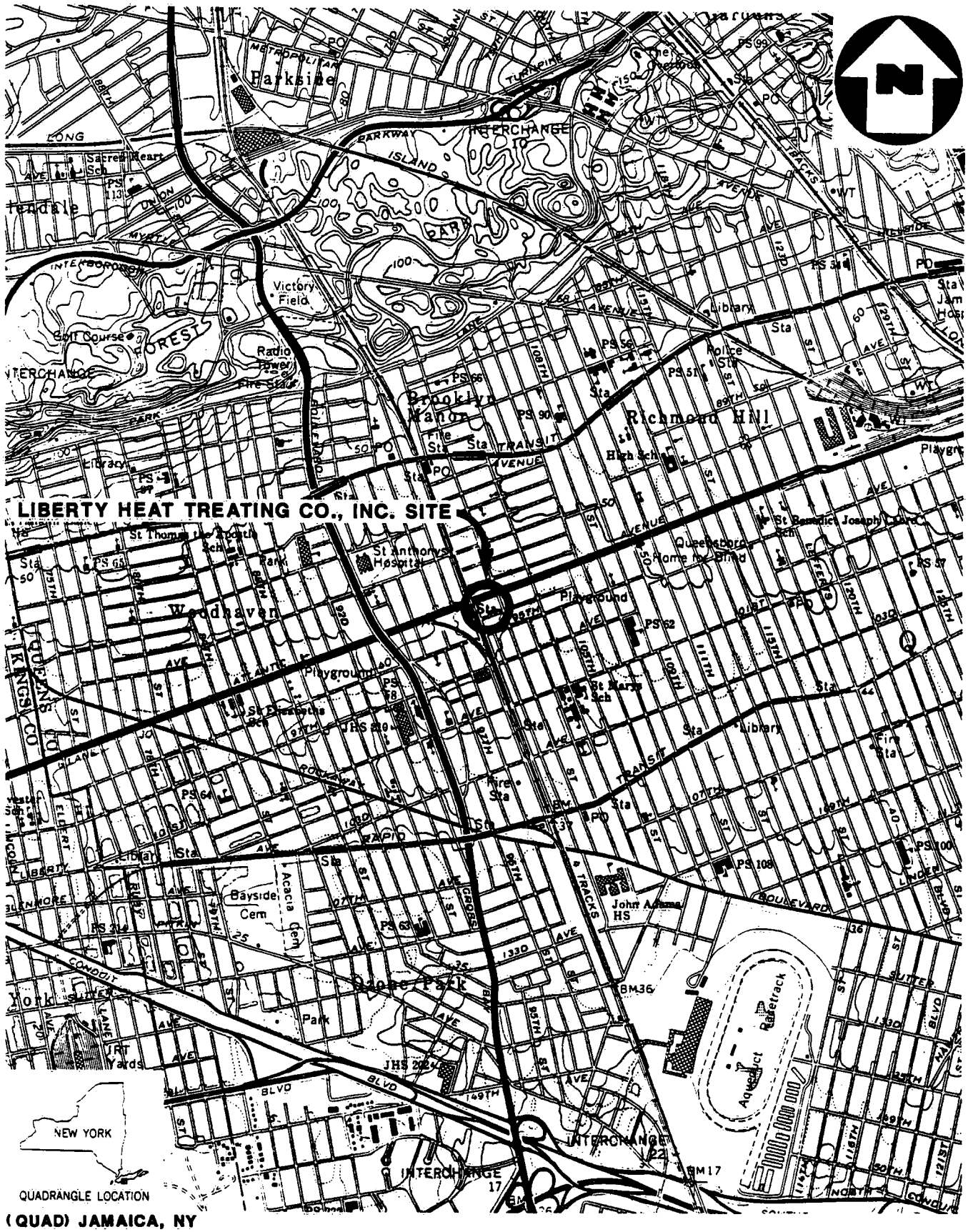
The facility lies in a heavily populated urban area. There is no information regarding any action taken at the site since its closure in 1988. Therefore, it is difficult to assess the hazards associated with hazardous substances that may still be present at the site. There is little potential for public direct contact at the site; all doors to the facility are shut, the windows are barred, and access to a lot adjacent to the building is controlled by a locked chain link fence. There is, however, potential that the building may still contain hazardous substances or be contaminated itself.

The surface water contamination route is of little concern regarding this facility. The nearest surface waters are approximately 2 miles away and there are no surface water intakes within 3 miles of the site, so the threat to people via the surface water route is low. A large population is served by groundwater taken from within 3 miles of the site. However, there is no evidence of any spills or mishandling of chemicals or record of any RCRA noncompliance issues at the site which could lead to groundwater contamination. Due to the low target population via the surface water route and a lack of any evidence regarding the mishandling of chemicals and waste at the site, a recommendation of **NO FURTHER REMEDIAL ACTION PLANNED** is given for the site.

ATTACHMENT 1

LIBERTY HEAT TREATMENT CO., INC.
OZONE PARK, NEW YORK

CONTENTS



(QUAD) JAMAICA, NY

SITE LOCATION MAP

LIBERTY HEAT TREATING CO., INC.

OZONE PARK, NY

SCALE 1" = 2000'

FIGURE 1

NUS CORPORATION

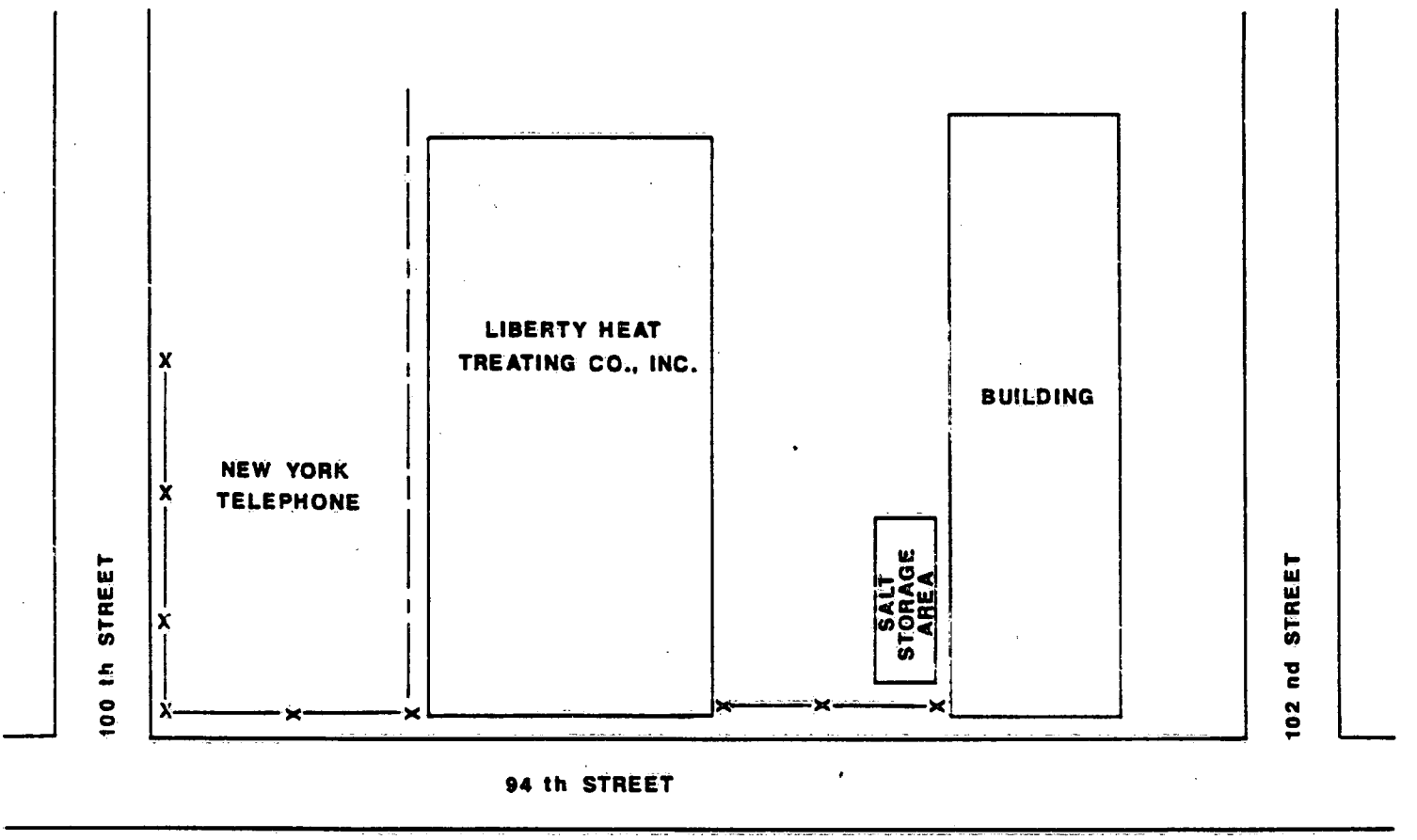


FIGURE 2

SITE MAP

LIBERTY HEAT TREATING CO., INC., OZONE PARK, N.J.

(NOT TO SCALE)

NUS CORPORATION

LIBERTY HEAT TREATING CO., INC.
OZONE PARK, NEW YORK
MAY 1, 1989

PHOTOGRAPH INDEX

Photo Number	Description	Time
5P	Photo of east side of building.	1005
6P	Photo of south side of building.	1007

All photographs taken by Joseph Dvorak.

LIBERTY HEAT TREATING CO., INC., OZONE PARK, NEW YORK

5P May 1, 1989 1005
Photo of east side of building.

6P May 1, 1989 1007
Photo of south side of building.

ATTACHMENT 2

REFERENCES

1. U.S. Environmental Protection Agency (U.S. EPA) Hazardous Waste Permit Application, Form 3, Consolidated Permits Program, November 8, 1980.

2. U.S. EPA General Information, Form 1, Consolidated Permits Program, November 8, 1980.

3. New York State Department of Environmental Conservation (NYSDEC) Inspection Form, New York State Industrial Hazardous Waste Management Act, April 30, 1985.

4. Letter from Liberty Heat Treating Company to Mr. Ursula Zysnarski, engineer in charge, Industrial Wastes Control Section, N.Y. City Department of Environmental Protection (NYCDEP), April 8, 1986.

5. NYCDEP. Questionnaire on Production and Wastewater Characteristics filed by Liberty Heat Treating Company, October 20, 1982.

6. NYSDEC, Division of Solid Waste, Generator/Waste Transporter Annual Report filed by Liberty Heat Treating Co., November 22,1985.

7. Letter from Edward O. Wagner, assistant commissioner, director, Bureau of Wastewater Treatment, NYCDEP, to Liberty Heat Treating Co., Inc., June 2, 1988.

8. U.S. EPA Facility Annual Hazardous Waste Report for 1982 filed by Liberty Heat Treating Company, January 21, 1983.

9. Full Information Report on Survey - First Tier, New York City Industrial Pretreatment Program, Industrial Wastes Control Section, August 15, 1985.

10. Intra-Departmental Memorandum from Irene Duval, pretreatment engineer, to Vincent Sapienza, deputy chief, Industrial Wastes Control Section, NYCDEP, January 10, 1989.

11. Soren, Julian. Subsurface Geology and Paleography of Queens County, Long Island, New York, Water Resource Investigations 77-34, U.S. Geologic Survey in cooperation with New York State Department of Environmental Conservation, 1978.

12. Soren, Julian. Ground-Water and Geohydrologic Conditions in Queens County, Long Island, New York, Geological Survey Water-Supply Paper 2001-A, U.S. Department of the Interior in cooperation with NYSDEC, 1971.

13. Telecon Note: Conversation between Ken Wenz, EPA Office of Groundwater Management, and Diane Trube, NUS Corp., May 4, 1989.

14. Federal Register, Vol. 49, No. 16, Tuesday, January 24, 1984 pp. 2950-52.

15. Three-Mile Vicinity Map, based on U.S. Department of the Interior, Geological Survey Topographic Maps, 7.5 minute series, "Jamaica Quadrangle, N.Y.", 1966, revised 1979, "Brooklyn Quadrangle, N.Y.", 1967, revised 1979.

16. Uncontrolled hazardous waste site ranking system, A user's manual, 40 CFR, Part 300, Appendix A, 1986.

REFERENCES (Cont'd)

17. Letter from S. Gross, program control officer, New York City Department of Health, to Joseph Dvorak, NUS Corp., May 18, 1989.

18. Jamaica Water Supply Company, Distribution System Map, circa 1970.

19. Telecon Note: Conversation between Mr. Lawman, Bureau of Public Health Engineering, N.Y. City Department of Health, and Joseph Dvorak, NUS Corp., May 8, 1989.

20. Preliminary Assessment Off-Site Reconnaissance Information Reporting Form, Liberty Heat Treating Co., TDD No. 02-8904-42, NUS Corporation Region 2 FIT, Edison, New Jersey, May 1, 1989.

21. Water Quality Regulations, New York State Codes, Rules, and Regulations, Title 6, Chapter X, Parts 700-705.

22. Telecon Note: Conversation between Richard Newman, Region 2 Water Program, New York State Department of Environmental Conservation (NYSDEC), and Joseph Dvorak, NUS Corp., May 10, 1989.

23. General Sciences Corporation, Graphical Exposure Modeling System (GEMS). Landover, Maryland, 1986.

24. New York Times, Area in Queens Is Cleared Out in Toxic Threat, August 15, 1985.

25. NYSDEC, Industrial Chemical Survey filed by Liberty Heat Treating Company, October 20, 1983.

26. Telecon Note: Conversation between Robert Salant, Public Relations, Jamaica Water Supply Co., and Joseph Dvorak, NUS Corp., May 22, 1989.

27. Letter from Michael S. Scheibel, senior wildlife biologist, NYSDEC, to Diane Trube, NUS Corp., December 20, 1988.

28. U.S. Fish and Wildlife Service, Atlantic Coast Ecological Inventory - New York, N.Y. - Conn. - N.J. 1980.

REFERENCE NO. 1

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F N X D 0 5 3 1 6 9 6 9 4

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

X 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

☐ 2. NEW FACILITY *(Complete item below.)*

8 | YR. 41 | MO. 01 | DAY 01 | FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

~~business in existance 40-50 years, orig. date unknown~~

YR. ___ MO. ___ DAY ___ FOR NEW FACILITIES PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☐ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C | DUP | T/A | C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S01	≤ 001	G		7				
2					8				
3					9				
4					10				

III. PROCESSES

...PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES ... FOR EACH PROCESS ENTERED HERE

The heat treating processes involving salt baths require the purchase and storage of various salts which are melted and used thusly. The salts come in drums weighing generally from 50 to 400 lbs. and are stored in them until used. At Liberty Heat Treating, we have 10 salt pot furnaces, the largest of which holds 48 cubic feet of molten salt and the smallest, approximately 2 cubic feet. As parts are processed the salt is disapated by quenching in oils and other quenching media and must be replaced.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY – For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	T/A	C	FOR OFFICIAL USE ONLY		T/A	C	
W NY D 0531696[illegible]	3	1	W	DUP	3	2	DUP

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	F010	001	P	S01	
2	F011	001	P	S01	
3	F012	001	P	S01	
4					
5					
6					
7					
8					
9					
10					
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25					
26					

CONTINUE ON REVERSE

inued from the front.

DESCRIPTION OF HAZARDOUS WASTES *(continued)*

USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

FIG. H
55

FIG. H
56

EPA I.D. NO. *(enter from page 1)*

F NY.D.0.5.3.1.6.9.6.9.4 T/A 3 C 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground--level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*

VIII. FACILITY OWNER

X A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

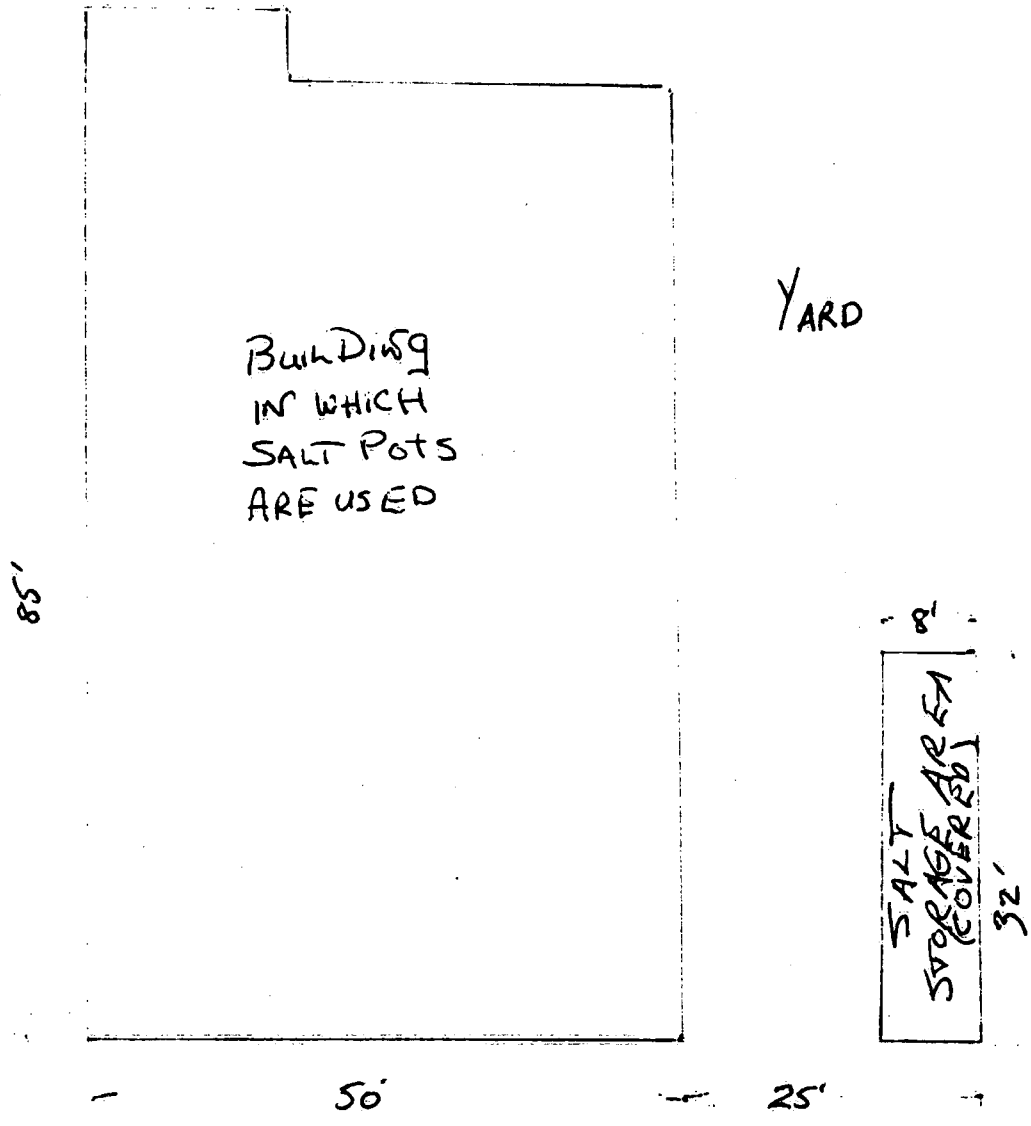
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
H. MANSFIELD	H Mansfield	11-8-80

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
H. MANSFIELD		11-8-80



SCALE 1/16" = 1FT

REFERENCE NO. 2

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F NY0053169694

GENERAL INSTRUCTIONS

If a preprinted label has been provided, aff it in the designated space. Review the infor ation carefully; if any of it is incorrect, cro through it and enter the correct data in t appropriate fill-in area below. Also, if any the preprinted data is absent *(the area to t left of the label space lists the informati that should appear)*, please provide it in t proper fill-in area(s) below. If the label complete and correct, you need not comple Items I, III, V, and VI *(except VI-B whi must be completed regardless)*. Complete items if no label has been provided. Refer the instructions for detailed item descri tions and for the legal authorizations unc which this data is collected.

LABEL ITEMS

I. EPA I.D. NUMBER	NY0053169694
III. FACILITY NAME	LIBERTY HEAT TREATING CO INC
V. FACILITY MAILING ADDRESS	100-15 94TH AVE OZONE PARK, NY 11416
VI. FACILITY LOCATION	100-15 94TH AVE OZONE PARK, NY 11416

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: LIBERTY HEAT TREATING CO. INC.

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 MANSFIELD, BOB , PRESIDENT	212 845 3150

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX			
3 100-15 94th. AVENUE			
B. CITY OR TOWN	**C. STATE**	**D. ZIP CODE**	
4 OZONE PARK	NY	11416	

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER			
5 100-15 94th. AVENUE			
B. COUNTY NAME			
QUEENS			
C. CITY OR TOWN	**D. STATE**	**E. ZIP CODE**	**F. COUNTY CODE (if known)**
6 OZONE PARK	NY	11416	

CONTINUE ON REVER

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST: 7 F0 1 0 (specify) Quench bath sludges from oil baths from metal treating operations

B. SECOND: 7 F0 1 1 (specify) spent solutions from salt pot cleaning from metal treating operations

C. THIRD: 7 F 01 2 (specify) Quenching Wastewater treatment sludges from metal heat treating operations

D. FOURTH: 7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: 8 LIBERTY HEAT TREATING CO, INC.

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO (66)

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)
P (specify) CORPORATION

D. PHONE (area code & no.): A 212 845 3150

E. STREET OR P.O. BOX: 100-15 94th. AVENUE

F. CITY OR TOWN: B OZONE PARK, N.Y.

G. STATE: NY

H. ZIP CODE: 11416

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO (52)

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): 9 N

D. PSD (Air Emissions from Proposed Sources): 9 P

B. UIC (Underground Injection of Fluids): 9 U

E. OTHER (specify): 9 (specify)

C. RCRA (Hazardous Wastes): 9 R

E. OTHER (specify): 9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. F9.11/30

XII. NATURE OF BUSINESS (provide a brief description)

METAL HEAT TREATING

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
H. MANSFIELD	(signature)	11-8-80

COMMENTS FOR OFFICIAL USE ONLY

C

REFERENCE NO. 3

INSPECTION FORM

Major: _____

Non-Major: ✓

NEW YORK STATE

INDUSTRIAL HAZARDOUS WASTE MANAGEMENT ACT

(Chapter 639, Laws of 1978)

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Henry G. Williams, Commissioner

Division of Solid and Hazardous Waste
Norman H. Nosenchuck, Director

Send to: Compliance Inspection Section
50 Wolf Road - Room 207/415
Albany, New York 12233-0001

EPA I.D. NUMBER: N Y D 0 5 3 1 6 9 6 9 4

*HANDLER'S NAME (Corporate): LIBERTY HEAT TREATING CO. INC

(Division): _____

*HANDLER'S MAILING ADDRESS: _____

100-15 44th AVE.

City & State OZONE PARK, NY Zip Code 11416

*HANDLER'S LOCATION ADDRESS: (if different than mailing) _____

City & State _____, _____ Zip Code _____

*HANDLER'S TELEPHONE NUMBER: (716) 845-3150 Extension _____

*FULL NAME OF HANDLER'S CONTACT: (Mr.) (~~Ms.~~) HERMAN MANSFIELD

*TITLE OF HANDLER'S CONTACT: PRESIDENT

*HANDLER'S CONTACT ADDRESS: (if different than Handler's) _____

City & State _____, _____ Zip Code _____

*HANDLER'S CONTACT TELEPHONE NUMBER: (____) _____ Extension _____
(if different than Handler's)

INSPECTION DATE: 4/30/85 TIME OF INSPECTION: 1030 a.m. ~~p.m.~~

COUNTY: QUEENS E/A NUMBER: 6 3 0 0 0 0

INSPECTOR'S NAME: ARMAND DEANGELIS

TITLE: SOLID WASTE MANAGEMENT SPECIALIST I

NAME: _____

TITLE: _____

CHECK ONE: Copy of THIS report (___ has) (✓ has not) been given to the Handler.

REPORT PREPARED BY: Armand DeAngelis DATE: _____

REPORT APPROVED BY: [illegible] DATE: 5/10/85

TABLE OF CONTENTS

* For the purpose of this Inspection Report - HANDLER means a hazardous waste Generator, Transporter, or Treatment, Storage or Disposal Facility (TSDF).

New York State Department of Environmental Conservation
Division of Solid and Hazardous Waste
50 Wolf Road, Albany, New York 12233

PART I

General Information and Classification of Facility

1. Identification of Hazardous Waste - 366	Yes	No
A. Is there reason to believe the facility has hazardous waste on-site? If yes, what leads you to believe it is hazardous waste? Check appropriate box/boxes and attach any applicable correspondence with DEC or EPA:	✓	

(1) ✓ Company recognizes that its waste is hazardous during the inspection.

(2) ✓ Company admitted the waste is hazardous in its RCRA notification and/~~or~~ Part A permit application. F010, F011, F012

(3) NA EPA testing (SWA-46) has shown characteristics of:
( ) ignitability - 366.3(b);
( ) corrosivity - 366.3(c);
( ) reactivity - 366.3(d);
( ) EP toxicity - 366.3(e)

NA Has revealed hazardous constituents (please attach analysis report) 366.4(a)2 (261 Appendix VIII)

(4) ✓ The material is listed in the regulations as a hazardous waste from non-specific sources 366.4b.

(5) NA The waste material is listed in the regulations as a hazardous waste from specific sources. 366.4c.

(6) NA The material or product is listed in the regulations as discarded commercial chemical products, off-specification species, containers residues and spill residues thereof. 366.4d.

(7) NA Company is unsure, but they have reason to believe that waste materials are hazardous. (Explain) _____

_____

(8) NA If don't know, please explain: _____

_____

_____

_____

B. Is there reason, other than those above, for you to believe that there are hazardous waste on site? (Explain) Cyanide wastes were being accumulated at the outdoor storage area prior to on-site treatment and disposal via sewer.

C. What other environmental permits are held by the company, relative to hazardous waste management? EP1 - PA299/73, EP2 - PA 301/73, EP3 - PA300/73 EP4 - PA 1048/74, EP5 - PA 1044/74

NA SPDES Permit Number

✓ Air Permit Number

NA Part 364 Industrial Waste Transporter Permit (indicate this company's permit number if any)

Please describe other relavent (if any) permits and give the name, address, Part 364 Permit Number and EPA I.D. Number of transporter(s) used by company.

NA

D. If the facility is a treatment, storage or disposal facility, have they:

YES Submitted a Part A application. NA Have changes been made that are not reflected in the Part A application? Should the Part A be modified by the Company? NA If so, explain.

A post-A application was filed for protective reasons however a letter to the EPA dated 6/21/82 requested a change of status.

NA Submitted a Part B application.

NA Been granted a Part 360 permit.

If so, when does it expire: NA

Please attach or explain any special conditions or variances - 360.1(g) NA

NA Been granted a hazardous waste Part B permit.

If so, also complete the facility Part B (Part 360) permitted inspection report - Appendix K.

E. Describe the activities that result in the generation of hazardous waste. Include the company's manufacturing processes. Liberty Heat Treating is engaged in the business of treating metal for the purpose of case hardening. A variety of heated salt baths; Sodium Chloride, Barium Chloride at high temperatures, Sodium Cyanide, Sodium nitrites and nitrates, are used for hardening. Black Oxide and Phosphate baths add corrosion resistance and inhibit oxidation. The metal is cleaned in baths containing Hydrochloric acid, water or detergent, and sonic cleaning provides a clean and smooth finish. Tempering is accomplished in the oven or induction furnace.

The hazardous waste generated is the Cyanide containing sludge from the Sodium Cyanide bath. (F012)

F. Identify the hazardous wastes that are on-site and the quantity of each (use the identification numbers referred to in Part 366). A 181 gal. capacity metal container is used to accumulate the F012 waste (Cyanide containing quenching wastewater treatment sludges from metal heat treating operations) Approximately 150 gallons was on hand at the time of the inspection.

G. The handler notified EPA as a: Generator / TSD

The handler notified for protective reasons and requested a small quantity exemption in a letter dated 12/24/80, and to be declassified from TSD status in a letter of 6/21/82 to the EPA. The last inspection report, 12/28/80 categorized Liberty as a small quantity generator.

Has EPA or DEC officially modified the handlers status? If so, attach correspondence. The facility is listed as a generator on the current notifiers list however no official correspondence has been received.

2. Status Identification:

This handler should be inspected as a (check each appropriate category after considering exemptions)

A. NA Transporter - complete Appendix B

B. Generator Status Identification 365.1

1. NA Category 1 generator - small quantity generator - generates than 100 kg/mo and stores less than 100 kg. - 365.1(e)(1)i - Complete Part II, 1B.

2. ✓ Category 2 generator - small quantity generator - generates less than 100 kg/mo and stores more than 100 kg but less than 1,000 kg. - 365.1(e)(1)ii - Complete Part II, 1C.

3. NA Category 3 generator - small quantity generator - generates more than 100 kg/mo but less than 1,000 kg/mo and stores less than 1,000 kg. - 365.1(e)(1)iii - Complete Part II, 1C and 1D.

4. NA Category 4 generator - small quantity generator as set forth in 365.1(e)(1)iv Below - Complete Part II, 1B.

(a) NA A total of one kilogram of all commercial product or manufacturing chemical intermediate having the generic name listed in paragraph 366.4(d)5.

(b) NA A total of one kilogram of any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph 366.4(d)5.

(c) NA Any containers identified in paragraph 366.4 (d)(3) of this title that are larger than 20 liters in capacity.

(d) NA A total of 10 kilograms of inner liner from containers identified in paragraph 366.4 (d)(3) of this title.

(e) NA One hundred (100) kilograms of any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph 366.4 (d) 5 of this title.

5. NA Category 5 generator - generated 1,000 kilograms or more per month - Complete Part II.

6. NA Category 6 generator - stores 1,000 kilograms or more - Complete Part II.

C. Treatment, Storage or Disposal Facility Status

On-site accumulation of hazardous waste prior to shipment - 365.2 (a)7

1. Is hazardous waste generated and stored on-site? If so: ~~YES~~ NA

   (a) NA Has hazardous waste been stored on-site longer than 90 days? 365.2 (a)(7)(i) - If yes, complete Appendix A.

   (b) NA Has more than 8,800 gallons of hazardous waste been stored in containers? 365.2 (a)(7)(i) - If yes, complete Appendix A.

   (c) NA Has more than 20,000 gallons of hazardous waste been stored in tanks? 365.3 (a)(7)(i) - If yes, complete Appendix A.

2. NA Hazardous waste received from off-site and not beneficially used, reused or legitimately recycled or stored. If yes, complete Appendix A.

3. NA ~~YES~~ Hazardous waste is treated on-site. 360.1(b)

4. NA ~~YES~~ Hazardous waste is disposed of on-site. 360.1(b)

3. Exemptions

If the handler is inspected other than as they notified (e.g., notified as generator/TSD - inspected as exempt generator) a full explaination should be included in Part III.

A. Generator Exemptions

   (1) NA Not a regulated handler (be sure to indicate why in Part I 1F and 1G and/or in appropriate exemption below - for example the company notified for precautionary reasons or the waste generated is not hazardous as specified in 366.1(g)(2).

   (2) NA Delisted hazardous waste 366.4-366.6 IDENTIFY the waste that was delisted: (If the company is in the delisting process they are still regulated until their delisting petition is favorably approved) Complete appropriate parts depending on company status.

(3) NA Exemption for used engine lubricating oil. 365.1(e)2 - Complete Part II, 1B.

(4) NA Exemption for farmers. 365.1(e)(3). Only if he triple rinses each emptied pesticide container in accordance with paragraph 365.1(e)(3)i or 365.1(e)(3)ii, and disposes of the pesticide residues on his own farm in a manner consistent with Section 325.4(d) of this title or in a manner consistent with the disposal instructions on the pesticide label, whichever is more restrictive.

(5) NA Exemption for publicly owned treatment works 365.1(e)4.

(6) NA Samples shipped to laboratories solely for analysis. 365.1(e)5.

(7) NA Residues of hazardous waste in empty containers. 365.1(e)6.

(8) NA A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste treatment manufacturing unit is not subject to regulation until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials. 365.1(e)7.

(9) NA Mixed with non-hazardous waste is exempt only if unregulated quantity is mixed and the resulting mixutre does not fairl a characteristic test - 365.1(e)(v).

B. TSD Exemptions

1. TSD exemptions - 360.1 (f) 2 (for facilities and operations that manage hazardous waste other than waste oil)

(a) NA The disposal of waste pesticides on a farm by the farmer who generated them if the container or inner liner has been triple rinsed or the inner liner has been removed and the disposal method is proper - 360.1 (f)(2)(i); 365.1 (e)(3).

(b) NA Storage of characteristic hazardous waste prior to its beneficial use or reuse or legitimate recycling or reclamation - if the hazardous waste is not a sludge, the facility processes a valid EPA identification number, and such storage occurs off-site of the waste's generation. 360.1 (f)(2)(iv) - If yes, complete Part II, 2, 3C, 3D.

(c) NA Beneficial use or reuse or legitmate recycling or reclamation of hazardous waste provided that if such management occurs off-site of the waste's generation, the management is of

neither listed hazardous waste nor sludge, the facility processes a valid EPA identification number, and if the facility recovers energy from the waste, complies with Part 201 (air permit).

(d) NA The treatment of hazardous waste prior to its beneficial use or reuse or legitimate recycling or reclamation if the treatment is of neither listed hazardous waste nor sludge and the facility possesses a valid EPA identification number. 360.1 (f)(2)(vi).

2. TSD exemptions - 360.1 (f)(3) (for facilities and operations that manage waste oils)

(a) NA Storage or treatment of waste oil generated on-site prior to its beneficial use or resue or legitimate recycling or reclamation if the waste oil is not a listed hazardous waste, and the waste oil is not a hazardous sludge. 360.1 (f)(3)(iii). (Check for prevention of spills and discharges to storm and sanitary sewers.)

(b) NA Exemptions for storage of waste oil at an energy recovery facility prior to its on-site combustion of such waste oils are not listed hazardous wastes, waste oils are not hazardous sludges, and the facility stored less than 80,000 gallons of waste oil. 360.1 (f)(3)(iv). (Check for prevention of spills and discharges to storm and sanitary sewers.)

(c) NA Combustion units that recover energy from waste oil, other than listed hazardous waste and sludges and the related treatment on-site of such combustion units if the facility complies with their air permit and if the facility manages waste oil which is a characteristic hazardous waste generated off-site, and it possesses a valid EPA identification number. 360.1 (f)(3)(v)

3. TSD exemptions - 360.1 (f)(2) and 360.1 (f) 3 (for facilities and operations that manage hazardous waste or waste oils).

(a) NA Storage of hazardous waste generated and stored on-site for 90 days or less and 8,800 gallons or less is stored in containers or 20,000 gallons or less is stored in tanks. The facility can not be located in a geographical area overlying a sole source aquifer. 360.1 (f)(2)(ii) - If yes, complete Part II, 2A, 3C, 3D.

(b) NA Storage or treatment of hazardous waste on-site of generation if generated and stored less than 1,000 kilograms of hazardous waste in each calendar month and do not generate or store acute hazardous waste as described in 365.1 (e)(1)(iv). - 360.1 (f)(2)(iii).

(c) NA Totally enclosed treatment facility for hazardous waste if totally enclosed treatment facility is directly connected to an industrial production process and the process is

constructed and operated in a manner which prevents the release of any hazardous waste or constituent thereof into the environment during treatment. 360.1 (f)(2)(viii) and 360.1 (f)(3).

(d) NA Elementary neutralization unit or wastewater treatment unit if owned or operated by a generator and treating only waste generated on-site - 360.1 (f)(2)(viii) and 360.1 (f)(3) - if yes, complete Part II 2A, 2B, 3C and 3D.

4. Environmental Facilities Corporation (EFC) Survey

The following questions are voluntary:

The Environmental Facilities Corporation (EFC) is actively involved in the industrial materials recycling program, and these questions will assist EFC in carrying out this program. It may also be beneficial to the facility being inspected in that acceptable markets or more economical alternatives to the facility's current disposal techniques may be brought to their attention.

A. Does the company believe their hazardous waste has the potential for recovery, reclamation or exchange with other companies to minimize disposal costs? ___Yes ___✓No ___Don't Know

If yes:

B. Does the company wish to list their waste stream in the Northeast Industrial Waste Exchange Listings Catalog? ___Yes ___✓No ___Don't Know

C. Does the company want to receive additional information about the potential for waste exchange? ___Yes ___✓No ___Don't Know

D. Does the company wish to obtain assistance from the New York State Environmental Facilities Corporation to assess the potential for recovery, reclamation or exchange of the hazardous waste stream? ___Yes ___✓No ___Don't Know

The Company representative may wish to contact Mr. Pickett Simpson, Hazardous Waste Program Manager, Environmental Facilities Corporation, 50 Wolf Road, Room 527, Albany, New York 12233 at (518) 457-4138.

New York State Department of Environmental Conservation
Division of Solid and Hazardous Waste
Bureau of Hazardous Waste Operations
50 Wolf Road, Albany, New York 12233

Part II

Generator Inspection Section

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

1. Requirements for Category 1-4 Generators:

Refer to questions based upon category checked in Part I.

A.___ If in Part I an exemption applies, inspection is complete if only category company is regulated under and requirements for that exemption are met. NA

B. If Category 1 and 4 generators or generators exempt for used engine lubricating oil, has met the following:

___ disposed in a solid waste facility - 365.1(e)(1)(i)(a) NA

___ made a hazardous waste determination - 365.1(e)(1)(i)(b) NA

C. If Category 2 and 3 generators has met the following:

___ made a hazardous waste determination - 365.1(e)(1)(ii)(a) NA

___ disposed of in authorized hazardous waste facility - 365.1(e)(1)(ii)(b) NA

___ submitted document justifying exemption - 365.1(e)(1)(ii)(c) NA

* ___ used appropriate containers; properly packaged, labeled and marked during storage and shipment - 365.1(e)(1)(ii)(d) NA

___ had containers and tanks stored properly; inspected at least quarterly - 365.1(e)(1)(ii)(e) X

___ had tanks designed, constructed and operated in accordance with regulations - 365.1(e)(1)(ii)(f) NA

___ had tanks properly sheltered and protected-365.1(e)(1)(ii)(g) NA

D. If Category 3 generator, has:

___ annual report prepared - 365.1(e)(1)iii; and NA

___ sent to DEC - 365.2(c)2 NA

* This facility does not ship waste; it is accumulated prior to on-site treatment and disposal and is therefore not subject to DOT pre-transport requirements.

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

For Category 5 and 6 generators complete remainder of Part II.

2. Labeling & Marking

A. ___ The container is marked with the date upon which each period of accumulation begins - 365.2(a)(7)(ii)(c) NA

B. ___ The container is labeled and marked in accordance with paragraphs 365.2(a)4 and 365.2(a)5. - 365.2(a)(7)(ii)(d) NA

3. On-site accumulation of hazardous waste prior to shipment - 365.2(a)7. NA
(For generators who accumulate any hazardous waste for a period of 90 days or less or store 8,800 gallons or less in containers or 20,000 gallons or less in tanks.)

A. ___ All such wastes are shipped off-site to a permitted treatment, storage or disposal (TSD) facility in 90 days or less or treated on-site of generation in 90 days or less - 365.2(a)(7)(ii)(a) NA

B. ___ The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container 365.2(a)(7)(ii)(c) NA

C. Standards for management of containers - 365.2(a)8
(This section will also be completed for TSD's as refered to from Appendix A.)

1. What type of containers are used for accumulation? Describe the size, type. (e.g., 12 fifty-five gallon drums of waste acetone).

1 square metal container with an approximate capacity of 167 gallons used for accumulating cyanide sludge. The container is polyethylene lined and marked CN.

Although the waste is not destined for transport, the recommendation was made that for safety purposes, the container be marked with the words "Hazardous Waste."

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

2. ___ The containers appear to be in good condition and are not in danger of leaking. (If containers are leaking, describe the type, condition and number that are leaking or corroded. Be detailed and specific)-365.2(a)(8)iii or 360.8(c)(8)(i). — X

3. ___ Hazardous waste stored in containers made of compatible materials in accordance with paragraph 365.2(a)3 - 365.2(a)(8)i or 360.8(c)(8)ii (If not, please explain). — X

4. ___ All containers except those in use are closed - 365.2(a)(8)ii or 360.8(c)(8)(iii)(a) — X

5. ___ Containers holding hazardous waste do not appear to be opened, handled or stored in a manner which may rupture the container or cause it to leak - 365.2(a)(8)iii or 360.8(c)(8)(iii)(b) — X

6. ___ The storage area is inspected at least weekly - 365.2(a)(8)iv or 360.8(c)(8)(iv) — X

7. ___ Containers holding ignitable and reactive wastes are located at least 15 meters (50 feet) from the facility's property line - 365.2(a)(8)v or 360.8(c)(8)(v) — NA

8. ___ The generator complies with the following special requirements related to storage of ignitable, reactive or incompatible wastes 365.2 (a)(8)vi: — NA

Special requirements related to storage of ignitable, reactive or incompatible wastes - 365.2(a)(10) and 360.8(c)(1)(v) — NA

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

(2) ___ Key perameters for automated waste feed cutoff systems; NA

(3) ___ Communications or alarm systems; NA

(4) ___ Response to fires and explosions; NA

(5) ___ Response to groundwater contamination incidents; and NA

(6) ___ Shutdown of operations. NA

C. ___ Facility personnel have successfully completed the program by the effective date of these regulations or six months after the date of their employment. 360.8(c)(1)(vi)b NA

D. ___ Facility personnel have taken part in an annual review of the initial training required. 360.8(c)(1)(vi)c NA

E. ___ Training records on current personnel have been kept permanently at the facility (until closure). 360.8(c)(1)(vi)e NA

F. ___ Training records on former employees have been kept for at least three years from the date the employee last worked at a facility. 360.8(c)(1)(vi)e NA

6. Preparedness and Prevention - 365.2(a)(7)(ii)e and 360.8(c)2

A. ___ The facility is maintained and operated to minimize the possibility of a fire or explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water - 360.8(c)(2)i X

B. ___ The facility is equipped with the following (Check missing equipment if needed in this facility's particular operations.) - 360.8(c)(2)ii X

(1) ___ An internal communication or alarm system capable of providing immediate emergency instruction (voice or signal) to facility; X

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

(2) ___ A device, such as a telephone or a hand-held, two-way radio capable of summoning emergency assistance from local police departments, fire departments or state or local emergency response teams; X

(3) ___ Portable fire extinguishers, fire control equipment. X

(4) ___ Water at adequate volume and pressure to supply water hose streams, or foam-producing equipment, or automatic sprinklers, or water spray systems. X

C. ___ Facility communications or alarm systems, fire protection equipment, and spill control equipment are tested and maintained as necessary to assure their proper operation in time of emergency - 360.8(c)(2)iii X

D. ___ Personnel involved in hazardous waste operations have immediate access to an internal alarm or emergency communication device 360.8(c)(2)iv X

E. ___ The facility has the required aisle space - 360.8(c)(2)v (Inspections should be able to be made of each drum and space should be sufficient to fight a fire). X

F. ___ The facility owner or operator has made an attempt in good faith to make the following arrangements with local authorities, as appropriate for the type of waste handled at the facility and the potential need for the services of these organizations - 360.8(c)(2)vi:

(1) ___ Arrangements to familiarize police, fire departments and emergency response teams with the functions and layout of the facility; X

(2) ___ Where more than one police and fire department might respond to an emergency, an agreement designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to primary emergency authority; NA

(3) ___ Agreements with government emergency response teams, emergency response contractors, and equipment suppliers; NA

(4) ___ Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illness which could result from fires, explosions or releases at the facility; and NA

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

(5) ___ Where state or local authorities decline to enter into such arrangements, the owner or operator has documented the refusal in the operating record. NA

7. Contingency Plan and Emergency Procedures - 365.2(a)(7)(ii)e and 360.8(c)3

A. ____ The facility has a contingency plan - 360.8(c)(3)(i)a NA

B. ____ The following are included in the contingency plan - 360.8(c)(3)ii NA

(1) ___ A description of actions facility personnel must take in response to fires, explosions or any unplanned sudden or non-sudden releases of hazardous waste or hazardous waste constituents to air, soil or surface water; NA

(2) ___ A spill prevention, control, and countermeasure (SPCC) plan in accordance with Part 112 or Part 151 of 40 CFR, or some other emergency or contingency plan, amended to incorporate hazardous waste management provisions that are sufficient; NA

(3) ___ A description of arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services; NA

(4) ___ Names, addresses and phone numbers of all persons qualified to act as emergency coordinator; NA

(5) ___ A list of all emergency equipment at the facility, and decontamination equipment, where this equipment is required; NA

(6) ___ The location and the physical description of each item on the list, and a brief outline of its capabilities; NA

(7) ___ An evacuation plan for facility personnel, where there is a possibility that evacuation could be necessary. NA

C. ____ Copies of the contingency plan are maintained at the facility - 360.8(c)(3)(iii)a NA

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

D. ____ Copies of the contingency plan have been submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services - 360.8(c)(3)(iii)b — NA

E. ____ The contingency plan has been amended - 360.8(c)(3)iv — NA

F. ____ There was at least one employee either on the facility premises or on call with the responsibility for coordinating all emergency response measures - 360.8(c)(3)v — NA

G. ____ During a past emergency situation the emergency coordinator or) his designee when the emergency coordinator is not on call) immediately activated emergency procedures - 360.8(c)(3)vi — NA X

Fire 11 years ago.

The following was done:

(1) ___ Activated internal facility alarms or communication systems; — X

(2) ___ Notified appropriate state or local agencies; — NA

(3) ___ Immediately identified the character, extent, exact source, amount and areal extent of any released materials; — NA

(4) ___ The emergency coordinator assessed possible hazardous to human health and the environment; — NA

(5) ___ The emergency coordinator, after determining that the facility had a release, fire or explosion which could threaten human health or the environment outside the facility, reported his findings; — NA

(6) ___ During the emergency, the emergency coordinator took all reasonable measures necessary to ensure that fire, explosions and releases do not occur, recur or spread to other hazardous waste; — X

(7) ___ The emergency coordinator monitored for leaks, pressure buildup, gas generation or ruptures in valves, pipes or other equipment, where appropriate during the facility's response to the emergency; — NA

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

(8) ___ The emergency coordinator provided for treating, storing or disposing of recovered waste, contaminated soil or surface water, or any other material that resulted from a release, fire or explosion at the facility; NA

(9) ___ The emergency coordinator ensured that in the affected area no waste that may be incompatible with the released material was treated, stored or disposed of prior to cleanup procedures being completed; NA

(10) ___ The emergency coordinator ensured that all emergency equipment listed in the contingency plan was cleaned and fitted for its intended use before operations were resumed; NA

(11) ___ The owner or operator notified the Commissioner that the facility is in compliance before operations were resumed in the affected areas of the facility; NA

(12) ___ The owner or operator noted in the operating record the time, date and details of the incident that required implementation of the contingency plan; NA

(13) ___ The owner or operator submitted a written report or complete written report on the incident within 15 days after the incident occurred. NA

NOT FOR RELEASE TO COMPANY, PROTECTED INFORMATION

PART III

Comments, Conclusions and Recommendations Section

Facility Name LIBERTY HEAT TREATING CO INC.

EPA I.D. No. N Y D C 5 3 1 6 3 6 3 4

Date of Inspection 7/30/85

General Comments and Conclusions (cite appropriate State regulations in violation and attach additional sheets and other information as required)

Liberty Heat Treating Co Inc. is a metal treating operation which generates Cyanide sludge as a byproduct of its processes. The sludge is stored in a polyethylene lined closed metal container in the outside storage area. This container has an approximate capacity of 187 gal (708.3 Kg) of waste, which is neutralized 3-4 times per year using the alkaline chlorination method (attached) and disposed of in the sewer.

This facility is an ~~exempt~~ small quantity generator, catigory 3 who generates greater than 100 Kg. per month and disposes of less than 1000 Kg. They are also exempt from DOT pre-transport requirements because they do not ship waste.

The recommendation was made for safety reasons that the waste container be marked "Hazardous Waste" in addition to "CN" already present on the container.

REFERENCE NO. 4

Liberty
HEAT TREATING CO., INC.

100-15 94th Avenue, Ozone Park, N.Y. 11416

845-3150 · 845-3186

P-17

April 8, 1986

Ms. Ursula Zysnarski
Engineer in Charge
Industrial Wastes Control Section
NYC DEP
Wards Island, N.Y. 10035

The information herein is offered to establish compliance with your request for a Baseline Monitoring Report.

1. Liberty Heat Treating Co., Inc. 100-15 94th. Avenue
   Ozone Park, N.Y. 11416 #718-845-3150
   Bob Mansfield, Pres.

2. Department of Air Resources
   299/73, 301/73, 300/73, 1048/74, 1049/74

3. There are no products-only services are offered, i.e., heat treating, phosphating, black oxiding, As a job shop quantities are so varient as to make weights of material processed meaningless.

4. Heat treating, phosphating and black oxide are noted in 40 CFR-433 and therefore applies to the operation.

5. Water is supplied by the city and measured on meter number 5164. There is no other sources of supply. Based on charges the consumption is 441,691 cubic feet per annum.

6. The quantity of waste water from sanitary sources is negligible compared to those generated in the processing operations. The grab samples, as shown on the diagram, contain only the processing waste water and do not include heat exchanger and sanitary wastes which would, of course, lower the chemical percentages in the actual discharge.

Liberty
HEAT TREATING

100-15 94th Avenue, Ozone Park, N.Y. 11416

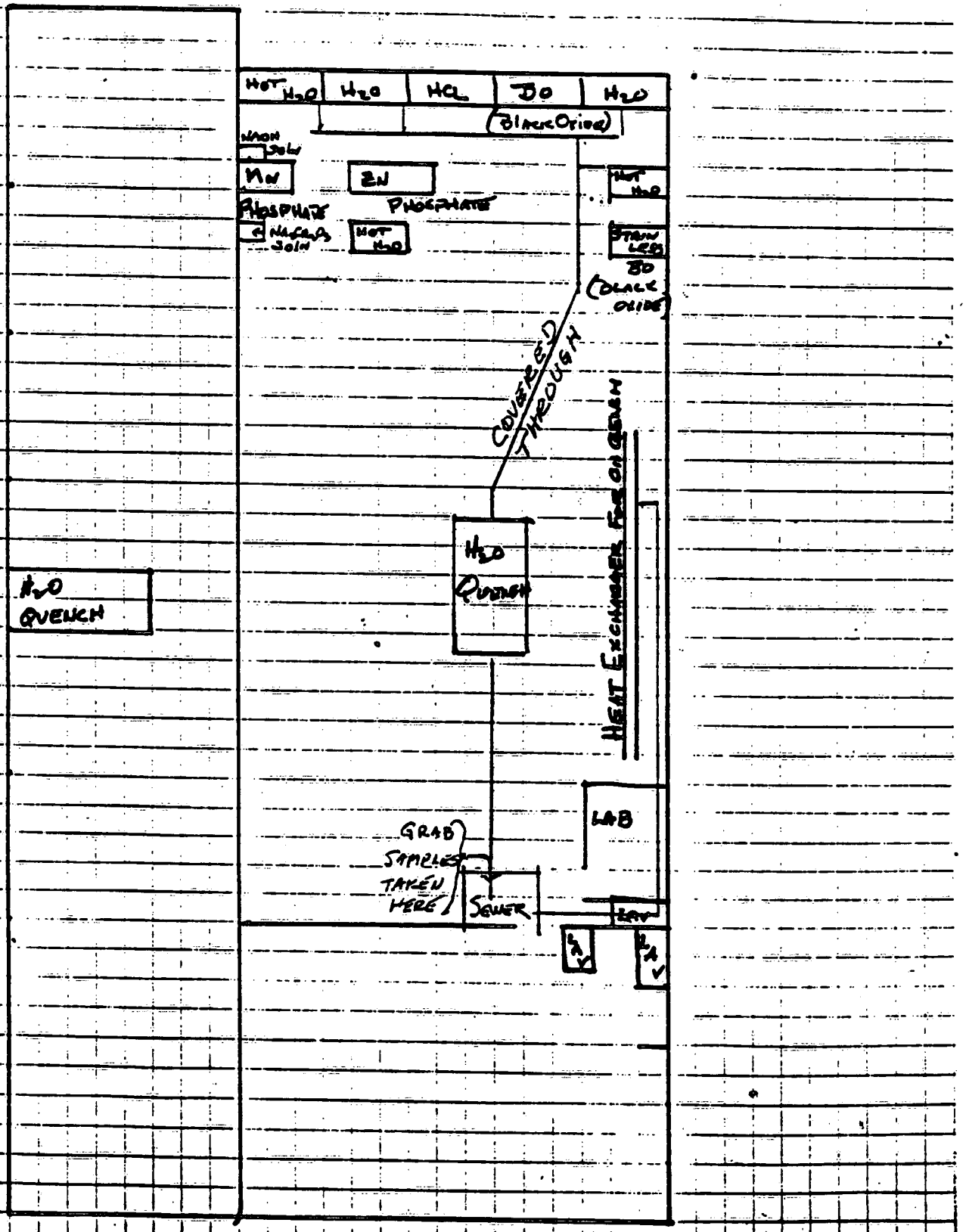
845-3150 · 845-3186

7. Grab samples were taken hourly and placed in appropiate containers. The Ph was measured for each grab sample, and , is reported in accompanying sheet.

8. The chemical analysis shows all elements within catagorical standards except for Zinc in the second sample. This is attributed to a leak found in the Zinc phosphate tank which has since been repaired.

9. The lack of compliance was corrected as noted above.

10. The BMR is certified as correct by the owner whose qualifications are submitted seperately.



WASTEWATER FLOW CHART
LIBERTY HEAT TREATING CO. INC
2-7-06
HM

4-3-86

WASTEX INDUSTRIES, INC.

E. PA 38-005
N.J. DEP 77371
Licensed Analytical Laboratories

28 S. HANOVER STREET POTTSTOWN, PA. 19464 215 / 327-0880
125 MAIN AVENUE, ELMWOOD PARK, N.J. 07407 201 / 791-6700

April 3, 1986

Liberty Heat Treating
100-15 94th Avenue
Ozone Park, N.Y. 11416

Attn: Bob Mansfield

P.O. # _____

Identification of Samples: Liberty Heat Treating

1. 03-0786-44 C1876 2-24-86
2. 03-0786-45 C1877 3-3-86
3. 03-0786-46 C1878 3-5-86
4. _____

Date Sampled: _____ Time 5:00 Date Rec. 3-7-86 Time 9:00

Sampled By: _____ Rec. by: JCH

Date Complete: _____

Tested By: Wastex

Class of Sample: ☐ Grab ☐ Grab Composite ☐ Continuous

Analysis	#1	#2	#3	#4
BOD (5 day 20°C) mg/l				
COD mg/l				
Dissolved Oxygen mg/l				
TOC mg/l				
Relative Stability				
Acidity mg/l $CaCo_3$				
Alkalinity mg/l $CaCO_3$				
Hardness mg/l $CaCO_3$				
pH				
Spec Cond. μmhos/cm				
Specific Gravity				
Color Pt-Co				
Odor TON				
Turbidity NTU				
Bromide mg/l				
Chloride mg/l				
Chlorine-Residual mg/l				
Cyanide mg/l Total	0.80	0.56	0.25	
Fluoride mg/l				
Ammonia Nitrogen mg/l				
Nitrate Nitrogen mg/l				
Nitrite Nitrogen mg/l				
Organic Nitrogen mg/l				
Total Phosphate as P mg/l				
Orthophosphate as P mg/l				
Silica mg/l				
Sulfate mg/l				
Sulfide mg/l				
Sulfite mg/l				
Total Solids mg/l				
Dissolved Solids mg/l				
Suspended Solids mg/l				
Volatile Solids mg/l				
Settleable Solids mg/l				
Grease and Oil mg/l				
Detergents mg/l				
Phenols mg/l				

BACTERIOLOGICAL

St. Plate Count No/ml				
Total Coliform No/100ml				

	Analysis	#1	#2	#3	#4
	METALS				
	Aluminum mg/l				
	Antimony mg/l				
	Arsenic mg/l				
	Barium mg/l				
	Beryllium mg/l				
X	Cadmium mg/l	<0.005	<0.005	0.040	
	Calcium mg/l				
X	Chromium mg/l	0.20	0.14	0.07	
X	Chromium (Hex) mg/l	<0.05	<0.05	<0.05	
X	Copper mg/l	0.33	1.13	0.16	
	Iron mg/l				
X	Lead mg/l	<0.05	<0.05	<0.05	
	Magnesium mg/l				
	Manganese mg/l				
X	Mercury mg/l	<0.0002	<0.0002	<0.0002	
X	Nickel mg/l	0.12	0.44	0.15	
	Potassium mg/l				
	Selenium mg/l				
X	Silver mg/l	<0.01	<0.01	<0.01	
	Sodium mg/l				
	Thallium mg/l				
	Tin mg/l				
X	Zinc mg/l	1.2	7.5	2.5	
		mg/l	mg/l	mg/l	
X	Cyanide-Amend	0.12	0.05	0.21	

Craig R. Ackerlach

DATE	HOUR	PH
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	7	7
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	9	9
	10	8
	11	8
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	13	6
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	24	8

DATE	HOUR	PH
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DATE	HOUR	PH
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REFERENCE NO. 5

QUESTIONNAIRE ON PRODUCTION AND WASTEWATER CHARACTERISTICS

255

LIBERTY HEAT TREATING CO INC
100-15 94TH AVE
OZONE PARK NY 11416

For assistance in completing this questionnaire, ask for the Pretreatment Program Staff at Lawler, Matusky & Skelly Engineers at (800) 942-1232.

ID# 16741 LOCATION: QUEENS
SIC 3398
METAL HEAT TREATING

This questionnaire is to be completed only for the plant location noted above.

CERTIFICATION

1. I certify that the information submitted on this and attached documents is accurate to the best of my knowledge.

SIGNATURE H. Mansfield	DATE 10-20-82
NAME (Print) H. MANSFIELD	TITLE PRESIDENT

GENERAL INFORMATION

2. If the above label is incorrect or incomplete, please provide the correct company name and address.

COMPANY NAME (Only If Different From the Label)			
MAILING ADDRESS (Only If Different)	CITY	STATE	ZIP CODE
PLANT ADDRESS (Only If Different)	CITY	STATE	ZIP CODE

3. Provide the name and telephone number of a technical contact person at the plant.

PLANT TECHNICAL CONTACT PERSON H. Mansfield	TELEPHONE NUMBER (212) 845 3150

4. Are there other companies or establishments besides your own which are located at your plant site or share space in the building in which you are located?

YES ☐ NO ☑

If yes, about how many? ☐

5. From your water bills, real estate tax records, or information supplied by the owner of the plant site, provide the block and lot numbers of your plant site.

BLOCK No(s). 9376	LOT No(s). 24 & 25

6. Attach a sketch showing the location of your establishment, indicating all streets around your block and the location of all your wastewater discharge points to the sewers (and septic tanks and surface waters, if applicable.)

QUESTIONNAIRE ON PRODUCTION AND WASTEWATER CHARACTERISTICS

PRODUCTION AND PROCESS INFORMATION

7. If the 4-digit Standard Industrial Classification (SIC) number on the gummed label on page 1 is incorrect, enter your correct SIC number below.

CORRECT SIC No.

8. Enter any additional SIC numbers you feel are necessary to describe the products of your facility. Present them in order of their relative importance (dollar value).

SIC 1	SIC 2	SIC 3

9. Briefly describe the products and operations of your facility. If needed, attach additional sheets.

We have no product - we render a heat treat service

10. Enter the approximate number of employees at this location.

EMPLOYEES
18

11. Enter the approximate number of employees per shift.

DAY	EVENING	NIGHT
13	3	2

12. Enter how many days per week you typically operate.

DAYS
5 1/2

13. Briefly describe any scheduled shutdowns or seasonal variations in activity.

None

14. Refer to Table 1 in the yellow colored attachment. This table lists a number of products and processes along with an identifier code. Enter this code for all types of product(s) and process(es) at your plant along with an estimate for average daily production. If the descriptions in Table 1 are not applicable to your facility, specify in the appropriate space below the product(s) or process(es) and do *not* enter any code. SEE THE EXAMPLE BELOW.

	PRODUCT/ PROCESS CODE	AVERAGE DAILY PRODUCTION	UNITS - CHECK ONE (✓)				
			GAL.	LB.	TON	SQ. FT.	OTHER UNITS (SPECIFY)
OTHER PRODUCT(S) OR PROCESS(ES) (SPECIFY)							
Heat Treat							
Blue Oxide							
Phosphate							

EXAMPLE

An electrical parts manufacturer that has a small metal plating shop, and recovers solvents by distillation would enter the following codes: F1 (sq. ft.), and A6 (gal.); and specify the type of electrical parts (no Product/Process Code applicable) and enter average daily production of these parts.

WATER USE AND WASTEWATER CHARACTERISTICS

15. If your only water use is for toilets, washrooms, cafeterias, and boiler feed for building heat, check (√) here → ☐ and do not complete Questions 16 to 25 (proceed to Question 26).

16. Enter the average annual water intake (hundred cubic feet [hcf]) by type of source.

SOURCE	INTAKE	CHECK (√) IF NOT METERED
Publicly supplied water	hcf/year	
Self-supplied groundwater (wells)	hcf/year	
Self-supplied surface water	hcf/year	
Total	hcf/year	

Note: hcf = one hundred cubic feet
There are 748 gallons in an hcf.

17. If your water is supplied by the Jamaica Water Company, check (√) here. → ☐

18. Enter the meter number(s) for your publicly supplied water. If you have more than three water meters, provide the numbers on a separate sheet of paper. IF YOU ARE SERVED BY THE JAMAICA WATER COMPANY, ENTER YOUR ACCOUNT NUMBER, *NOT* METER NUMBERS.

Meter No. 1	Meter No. 2	Meter No. 3
5164		

19. If there are companies besides your own that receive water through these meters, check (√) here. → ☐
If these companies are on a sub-meter, check (√) here. → ☐

20. Enter your best estimate of the annual discharge of wastewater (hundred cubic feet [hcf]). Check (√) if any wastes are not discharged to the public sewers. Also check (√) if any discharges are from batch processes.

USE	DISCHARGE	CHECK √) IF *NOT* TO PUBLIC SEWERS	CHECK √) IF BATCH PROCESS DISCHARGE
Toilets, washrooms, cafeterias (if unknown, assume 10 hcf per employee per year)	180 hcf/year		
Uncontaminated discharges (non-contact cooling, air conditioning, non-contact condensate, boiler blowdown and intake water treatment)	hcf/year		
Contaminated and process discharges (if possible, identify by the same process/product codes used in Question 14 - otherwise just give total of contaminated discharges)			
approximate annual total	2000 hcf/year		
	hcf/year		
	hcf/year		
TOTAL - (ALL DISCHARGES)	2000 hcf/year		

Note: hcf = one hundred cubic feet
There are 748 gallons in an hcf.

21. Briefly explain the reason for any differences between total intake (Question 16) and total discharge (Question 20).

REFERENCE NO. 6

47-15-16 (12/82)

(1)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID WASTE

GENERATOR / WASTE TRANSPORTER ANNUAL REPORT

for the year ending December 31, 19 84

RECEIVED N.Y.S.D.E.C. REGION 2 NOV 27 1985 SOLID AND HAZARDOUS WASTE

Page No. ___ of ___

(2) ☐ GENERATOR EPA ID NUMBER ______________ OR ☑ SMALL GENERATOR

NAME Liberty Heat Treating Co Inc

STREET 100-15 94th Av

CITY Ozone Park STATE NY

(3) ☐ TRANSPORTER EPA ID NUMBER ______________ NYSDEC Part 364 Permit No. ____-______

NAME

STREET

CITY STATE ZIP CODE

(4) TREATMENT, STORAGE, OR DISPOSAL FACILITY (TSDF)

EPA ID NUMBER ______________ NYSDEC Facility I.D. No. ________

NAME

STREET

CITY STATE ZIP CODE

WASTE INFORMATION

(5) WASTE DESCRIPTION	(6) WASTE CODE	(7) FORM	(8) HANDLING METHOD	(9) QUANTITY	(10) UNITS	(11) ON-OFF SITE
Cyanide quench Residue	F012	04	S05*	Less Than 100Kg per Month	03	ON
* Store prior to neutralization and discharge to sewer.						

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

(12) PRINT OR TYPE NAME Herman Mansfield TITLE Pres

SIGNATURE H Mansfield DATE 11-22-85

9. WASTE DISPOSAL

9.1 Disposal of waste sodium cyanide and materials containing it must be done with full consideration of the potentially adverse effects cyanide can have on water courses. All federal, state and local regulations concerning such disposal should be determined and observed in all cases.

9.2 Cyanides in low concentrations are toxic to fish and other aquatic life and are of concern to streams used as a source of public water supply. The aquatic Life Advisory Committee of ORSANCO in its Third Progress Report recommended that concentrations of free cyanide in excess of 0.25 mg/l be considered unsafe in the waters of the Ohio River. In 1962, USPHS Drinking Water Standards set a limit of 0.01 mg/l and a mandatory limit of 0.2 mg/l. Cyanides discharged into a sewer can also interfere with biological sewage treatment processes.

9.3 Several methods of treating cyanide-bearing wastes have been developed. The method which has gained wide acceptance is alkaline chlorination. In this process, the cyanide waste is treated with caustic in chlorine or one of chlorine's alkaline compounds,

the hypochlorites, at a pH of 8.5-10.0. The ~~alkaline~~ alkaline chlorination is presented in the following reactions:

(1) $2OH^- + Cl_2 \rightarrow OCl^- + Cl^- + H_2O$

(2) $CN^- + OCl^- \rightarrow CNO^- + Cl^-$

(3) $2CNO^- + 3OCl^- + H_2O \rightarrow 2CO_2 + N_2 + 3Cl^- + 2OH^-$

This method is applied to practically every type of cyanide waste that is encountered

~~This method is applicable to practically every type of cyanide waste that is encountered.~~

9.4 **CAUTION.** In no case should sodium cyanide waste be run into drains or sewers which might contain acidic wastes which would liberate the highly toxic hydrocyanic acid gas.

REFERENCE NO. 7

June 2, 1988

Liberty Heat Treating Co., Inc.
100-15 94th Avenue
Ozone Park, New York 11416

Re: Commissioner's Order
and Directive
40 CFR Part 413

Gentlemen:

The wastewater being generated by your electroplating operations was self-monitored throughout the day on March 5, 1986. The sampling results indicate that your discharge complies with applicable Federal categorical standards and the local limits contained in Section 5.1 of the New York City sewer use regulations. Pursuant to Section 24-524(a) of the Administrative Code of the City of New York, you are now required to conform to the enclosed **Commissioner's Order and Directive**. This document (the "**Directive**") specifies ongoing self-monitoring and reporting requirements.

Specifically, Sections IIB and IIIB of your **Directive** contain the appropriate sampling requirements for your Facility; the listed pollutants are those that are reasonably expected to be found in your discharge in significant concentrations. Section IV(a) specifies the periods for which analytical reports must be submitted. (It is suggested that you make sufficient copies of the enclosed blank Discharge Monitoring Report Form for subsequent reporting.)

Section IV(d) requires you to report whether or not your wastewater discharge has been continually in compliance with applicable standards. If it has not, an explanation must be provided concerning the cause(s) of the non-compliance and what you will do to correct it. A proposed compliance schedule, with interim milestone dates of progress, must accompany the explanation. Your proposal will be evaluated for acceptability; a notification of our determination will follow.

Liberty Heat Treating Co., Inc.
100-15 94th Avenue
Ozone Park, New York 11416

Section IV(e) requires that you notify us (in the next report concerning continued compliance) whenever certain modifications at your Facility occur.

Failure to comply with all the terms and conditions of your Directive will result in a Notice of Violation--returnable to the New York City Environmental Control Board--being issued against your establishment.

If you have any questions concerning this matter, please telephone:

Mr. Thomas G. Vetter
Deputy Chief (Categorical Pretreatment)
Industrial Wastes Control Section
(212) 860-9386.

Sincerely,

ORIGINAL SIGNED BY

Edward O. Wagner, P.E.
Assistant Commissioner
Director
Bureau of Wastewater Treatment

enc: Commissioner's Order and Directive
Discharge Monitoring Report Form

cc: Lutzic
Vetter/Sapienza
File P-17

VS/LAK

REFERENCE NO. 8

Do not make entries in shaded areas

OMB#: 2050-0005 Expires: 1-31-83

ENVIRONMENTAL PROTECTION AGENCY

FACILITY ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1981 1982 ANNUAL REPORT

AFFIX LABEL HERE

Please print/type with elite type (12 characters per inch)

GENERAL INSTRUCTIONS: If you received a preprinted label attached to the mailing envelope in which this form was enclosed, affix it in the space provided. If any of the information on the label is incorrect, draw a line through it and provide the correct information in the appropriate section below. If the information is correct and complete, leave Sections I, II, and III below blank. If you did not receive a preprinted label, complete all sections. REFER TO THE SPECIFIC INSTRUCTIONS CONTAINED IN THIS BOOKLET BEFORE COMPLETING THIS FORM. The information requested in this report is required by law (Section 3004 of the Resource Conservation Recovery Act).

MAIL TO:
NYS-DEC
TSD Annual Report
P.O. Box 15628
Albany, New York 12212

I. FACILITY EPA I.D. NUMBER

NYD053169694

T/A C

F ~~NYD053163634~~ 1

II. NAME OF FACILITY

LIBERTY HEAT TREATING CO INC

III. FACILITY MAILING ADDRESS

3 100-15 94TH AVE

Street or P.O. Box

4 OZONE PARK NY NY 11416

City or Town — State — Zip Code

IV. LOCATION OF FACILITY (if different than section III above)

5

Street or Route number

6

City or Town — State — Zip Code

V. FACILITY CONTACT

2 MANSFIELD HERMAN

Name (last and first)

212-845-3150

Phone No. (area code & no.)

VI. COST ESTIMATES FOR FACILITIES

$ LESS THAN 100 — Cost Estimate for Facility Closure

$ LESS THAN 100 — Cost Estimate for Post Closure Monitoring and Maintenance (disposal facilities only)

VII. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

H. MANSFIELD	PRES	[signature]	1-21-83
Print/Type Name	Title	Signature of Authorized Representative	Date Signed

EPA Form 8700-13B(5-80) (Revised 10-82)

Do not make entries in shaded areas

ENVIRONMENTAL PROTECTION AGENCY

Facility Annual Hazardous Waste Report (cont.)

This report is for the calendar year ending December 31, 1982 ANNUAL REPORT

VIII. FACILITY'S EPA I.D. NO.

T/A C

F M Y 0 5 3 1 6 3 6 3 4 1

1 2 13 14 15

Date received: 8

Received by:

IX. GENERATOR'S EPA I.D. NO.

G

16 28

X. GENERATOR NAME (specify generator from whom all wastes on this page were received)

ON SITE

XI. GENERATOR ADDRESS

XII. WASTE IDENTIFICATION

Sequence #	Line #	A. Description of Waste	B. EPA Hazardous Waste No. (see instructions)	C. Handling Method	D. Amount of Waste	E. Unit of Measure
29 32	1	QUENCH BATH SLUDGES FROM ALL BATHS FROM METAL TREATING OPERATIONS	F 0 1 0 (33 36) (37 40)	S 0 1 (49 51)	X (52 60)	P (61)
	2	SPENT SOLUTIONS FROM SALT POT CLEANING FROM HEAT TREATING	F 0 1 1 (41 44) (45 48)	S 0 1	T	P
	3	QUENCHING BATH WATER TREATMENT SLUDGES FROM METAL FORMING OPERATIONS	F 0 1 2	S 0 1	T	P
	4					
	5	X SMALL QUANTITY GENERATOR				
	6	AS DESCRIBED IN 40CFR				
	7	PART 261.5A				
	8					
	9					
	10					
	11					
	12					

Tear out here

XIII. COMMENTS (enter information by section number—see instructions)

REFERENCE NO. 9

FULL INFORMATION REPORT ON SURVEY - FIRST TIER
NEW YORK CITY INDUSTRIAL PRETREATMENT PROGRAM - INDUSTRIAL WASTES CONTROL SECTION
THU, AUG 15, 1985

LIBERTY HEAT TREATING
CO., INC.
100-15 94TH AVENUE
OZONE PARK, NY 11416

LOCATION: QUEENS
CONTACT:
H. MANSFIELD
212 845-3150

DATE RECD: 11/11/82 MAJOR SIC:3398 METAL HEAT TREATING
PWC ENCLOSED: YES
RESIDUALS ENCLOSED: YES
ICS ENCLOSED: YES
INDUSTRIAL WATER USER: YES PLATER #: 255Z NYSDEC ICS #: 00597 (NEGATI
SUBSTANCES OF CONCERN:
USAGE: .0000E+00GAL 6000. LB
STORAGE: .0000E+00GAL 500.0 LB
DRAINAGE AREA: JAMAICA

OF OTHER PLANTS AT SITE: 0
DAYS PER WEEK OF OPERATION: 5.5
LOCATION SKETCH ENCLOSED: YES

BLOCK NO: 9376
LOT NO: 24
ADDITIONAL LOTS: YES

NUMBER OF EMPLOYEES

DAY SHIFT:	13
EVENING SHIFT:	3
NIGHT SHIFT:	2
TOTAL:	18

FACILITY OPERATIONS:
WE HAVE NO PRODUCT - WE RENDER A HEAT TREAT SERVICE. USE QUENCH TANKS, RINSE TANKS, AND HEAT EXCHANGERS.

SCHEDULED SHUTDOWNS:
NONE

PRODUCT/PROCESS TABLE

CODE	QUANTITY		DESCRIPTION
	UNKNOWN	LBS.	HEAT TREAT

WATER INTAKE (HCF/YR)		WATER METERS
PUBLIC		5164
WELLS		
SURFACE		
TOTAL		

WASTEWATER DISCHARGE

SANITARY	180
UNCONTAMINATED	
CONTAMINATED	
Z	2000
TOTAL	2180

TOTAL CONTAMINATED DISCHARGE

USE ZINC PHOSPHATE, MANGANESE PHOSPHATE, AND BLACK OXIDE, ALTHOUGH NOT MENTIONED ON THE ICS.

FULL INFORMATION REPORT ON SURVEY - FIRST TIER
NEW YORK CITY INDUSTRIAL PRETREATMENT PROGRAM - INDUSTRIAL WASTES CONTROL SECTION
THU, AUG 15, 1985

MONITORING REQUIREMENTS

ID#	MONITORING DECISION CODE	DECISION DATE (YYMMDD)	SOLVENT CERT. REQUIRED	WASTEWATER CERT. REQUIRED	DAYS OF SAMPLING REQUIRED
16741	X	830502	N	N	1

PARAMETERS TO BE MONITORED

CODE	DESCRIPTION
S01	pH
S02	Flow Volume
M13	Zn
M14	CN(T)
M07	Pb
M05	Cr(T)
M09	Ni
M06	Cu

RESIDUALS

NO RESIDUALS DATA ENTERED

STORE HAZARDOUS WASTE ON SITE?: NO
8700-12: YES ATTACHED?: YES

LABORATORY ANALYSIS DATA AND TIER TWO SURVEY RESULTS

NO MONITORING RESULTS RECEIVED FOR THIS ESTAB.

REFERENCE NO. 10

1-10-89

CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTEWATER TREATMENT
DIVISION OF OPERATIONS CONTROL

INTRA-DEPARTMENTAL MEMORANDUM

January 10, 198[illegible]

TO: Vincent Sapienza
Deptuy Chief
Industrial Waste Control Section

FROM: Irene Duval
Pretreatment Engineer
Industrial Wastes Control Section

SUBJECT: REQUEST FOR RECATEGORIZTION OF LIBERTY HEAT TREATING CO., INC. (P-17)

This is to inform you that Liberty Heat Treating Co., Inc. has gone out of business since August 17, 1988.

The president of said company owns another company under the name Precision Heat Treating Co., Inc., located at 259 Monitor Street, Brocklyn, New York 11222 which is also the forwarding address for Liberty Heat Treating Co., Inc.

It is therefore requested that you perform an investigation to determine whether said company is out of business or simply changed its name and location.

Irene Duval
Pretreatment Engineer
Industrial Wastes Control Section

cc: Klein
LaGrotta
Comninakis
File P-17

ID/er

REFERENCE NO. 11

SUBSURFACE GEOLOGY AND PALEOGEOGRAPHY OF QUEENS COUNTY, LONG ISLAND, NEW YORK

by Julian Soren

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations 77-34
Open-File Report

Prepared in cooperation with the

New York State Department of Environmental Conservation

February 1978

GEOLOGY

The subsurface geologic units in Queens County described in this report consist of sequences of unconsolidated sediments of Late Cretaceous and Pleistocene pre-Sangamon and Sangamon ages that are underlain by crystalline bedrock of Precambrian(?) age and overlain mostly by glacial upper Pleistocene deposits of Wisconsin age but also, to a lesser extent, by Holocene deposits. These units, from bedrock upward, are the Raritan Formation, of Late Cretaceous age, consisting of the Lloyd Sand Member and an overlying clay member (unnamed); the Magothy Formation-Matawan Group undifferentiated, of Lake Cretaceous age; the Jameco Gravel, of pre-Sangamon age; and the Gardiners Clay, of Sangamon age. The Cretaceous formations are part of the Atlantic Coastal Plain. The overlying upper Pleistocene deposits extend to the land surface in more than three-fourths of the County; Holocene deposits mantle the remainder.

Erosion of the subsurface units developed a valley system, now buried, which traverses Queens County from north to south. The valleys are filled with Pleistocene deposits.

The unconsolidated deposits have been intensively developed, mostly for public-water supply, since before 1900; recorded pumpage from 1904 through the 1960's averaged 60 Mgal/d (Soren, 1971, p. 23). In the mid-1970's, pumpage increased to an average of 70 Mgal/d (New York State Department of Environmental Conservation, Stony Brook, N.Y. office, written commun., May 1, 1973, and R. J. O'Reilly, oral commun., Aug. 5, 1974).

Subsurface Geology

Precambrian(?) Rocks

Bedrock

The Precambrian(?) bedrock consists chiefly of complexly folded and faulted gneisses and schists that were eroded to a peneplain before deposition of the overlying Upper Cretaceous units.

The position of the bedrock surface is shown by contours in plate 2A. The strike of the bedrock surface in Queens County is about N 50° E, and the surface dips to the southeast at approximately 80 ft/mi, an angle of about 52 minutes. Small bedrock outcrops occur in the northwestern part of the County near the East River (Soren, 1971, pl. 1), and bedrock lies 1,100 ft below sea level at Far Rockaway, in the southeastern part of the County.

In most of Queens County, the bedrock surface was weathered to clay prior to deposition of the Upper Cretaceous strata. Perlmutter (in Suter and others, 1949, p. 13) states that the weathered bedrock-surface

clay is 5 to 100 ft thick and can be identified and differentiated from younger clay units by examination of samples for indications of original bedrock minerals, such as ragged quartz grains, garnet fragments, biotite, amphibole, pyroxene, feldspar, or altered products of these minerals.

Information about the position of bedrock in Queens County is of interest to designers of subsurface structures, excavators, and water-well drillers, especially where bedrock is near the land surface in northwestern and northern Queens, because the bedrock surface is, for practical definition, the bottom of the ground-water reservoir on Long Island. Bedrock does not usually yield more than a few gallons per minute to wells and, except at a few wells in the extreme western part of the county, bedrock is not used for water supply because larger yields are usually available at shallower depths.

Upper Cretaceous Deposits

Raritan Formation

Lloyd Sand Member.--This unit is of continental origin and overlies the bedrock surface with angular unconformity. The Lloyd consists of very fine to very coarse quartzose sand, granule to medium-pebble gravel, and interbedded clay and clayey and silty sand; sand and gravel beds commonly contain much interstitial clay and silt. The sand and gravel are generally grayish white and light yellow; clays are grayish white, light to dark gray, pink, and reddish. Disseminated lignite and pyrite are common in Lloyd beds, and laminae and thin beds of these substances occur within the clayey beds. Other minerals are stable types such as muscovite, rutile, and garnet.

Thickness of the Lloyd Sand Member in Queens County increases southeastward and ranges from 0 to 300 ft. Strike and dip of the member are approximately the same as those of the bedrock surface.

The position of the Lloyd surface is shown by contours in plate 2B. The unit was not deposited in western and northwestern Queens County but tapers out along a line from the Ridgewood vicinity of the County to Jackson Heights. The Lloyd is missing in buried valleys between the New York Municipal airport and College Point, between College Point and Whitestone, and in the Flushing Meadows Park area (pl. 1B, section C-C') as a result of erosion mainly in post-Cretaceous time. The valleys were probably cut by the ancestral Hudson River and associated tributary and distributary streams. The valley system is discussed in the section "The Buried Valley of the Ancestral Hudson River(?) in Queens County."

Lloyd beds do not crop out in Queens County; the surface of the member lies 100 ft below mean sea level in the northern part of the county and descends to 800 ft below sea level at Far Rockaway.

The importance of the Lloyd Sand Member in Queens County is that it is a moderately developed aquifer (Lloyd aquifer). As much as 10 Mgal/d of freshwater was pumped from the Lloyd in the 1930's and 1940's, and an average of 5 Mgal/d was pumped from the unit in the 1960's (Soren, 1971, p. 26). Lloyd pumpage in the mid-1970's averaged 6 Mgal/d (New York State Department of Environmental Conservation, written commun., May 1, 1973 and R. J. O'Reilly, oral commun., Aug. 5, 1974). Individual wells screened in Lloyd strata have been pumped at sustained rates of more than 1,000 gal/min during their developmental stages.

Water in the Lloyd is under artesian conditions; it is confined by the overlying clay member of the Raritan Formation and the underlying bedrock. The Lloyd is the only large supply of fresh ground water on the Rockaway Peninsula, and since it lies below sea level everywhere on Long Island, its freshwater recharge can only be from above. Recharge is mostly at very slow rates through the clay member over large areas, but locally, in the buried valleys, the aquifer can be more easily recharged through adjacent Pleistocene deposits that extend from bedrock to land surface (pl. 1B, section C-C').

Clay member.--This unit, of continental origin, has not been formally named as a stratigraphic unit but is commonly referred to on Long Island as the Raritan clay; it has also been named "Raritan clay" as a hydrogeologic unit (Cohen and others, 1968, p. 18). The clay member overlies the Lloyd Sand Member with apparent conformity. In western Queens County, the clay member overlaps the Lloyd and lies on bedrock with angular unconformity (pl. 1B, sections A-A' and C-C').

Deposits of the clay member include clay, silty clay, and clayey and silty fine sand. Lignite and pyrite occur in the clay member as in the Lloyd Sand Member. Sandy beds are commonly found in the clay member, and thin gravelly beds have been found locally in the unit. The clays are mostly light to dark gray; others are brownish red, pink, red, and grayish white. The reddish hues are attributed to oxidation of iron minerals in the sediments where they crop out (or cropped out prior to burial), or where they are (or were) near enough to land surface for oxidation to occur.

The author observed one outcrop of the clay member in Queens County in a small bluff near the shore of the East River in Whitestone (Soren, 1971, pl. 1) and penetrated the unit with a hand auger 4 ft below beach deposits just north of the outcrop (the outcrop was covered by a few feet of earth at some time in the late 1960's). Elsewhere in the County, the clay member lies below land surface and almost entirely below sea level. The unit dips southeastward and is about 600 ft below sea level at Far Rockaway; strike and dip of the clay member's surface are approximately the same as the Lloyd's. Thickness of the clay member increases southward and ranges from 0 to 200 ft. However, where the unit is less than 100 ft thick, the thinning is generally a result of erosion.

The position of the surface of the clay member is shown by contours in plate 2C. The map of the unit's surface indicates that the clay member overlaps the Lloyd in western and northwestern Queens County. The unit is missing in the westernmost part of Queens and in the buried valleys, where the Lloyd is also missing. The clay member terminates generally as a low escarpment, probably because it is more resistant to erosion than the Lloyd Sand Member or overlying beds.

On Long Island, the major significance of the clay member is that it confines water in the Lloyd Sand Member (Lloyd aquifer).

Magothy Formation-Matawan Group Undifferentiated

This unit includes the remainder of the Upper Cretaceous strata above the Raritan Formation in Queens County. It apparently is of continental origin and disconformably overlies the clay member of the Raritan Formation. The Magothy-Matawan unit is unconformably overlain by formations of Pleistocene age, which are described in the following paragraphs. In older reports, such as Suter and others (1949), the unit was called the "Magothy(?) Formation"; the name change to Magothy Formation-Matawan Group undifferentiated was made by Perlmutter and Todd (1965, p. 9).

The Magothy-Matawan deposits consist of strata similar to those in the Lloyd Sand Member of the Raritan Formation; however, sand and gravel (up to large pebbles) generally occur only in the basal 50 to 100 ft of the Magothy-Matawan deposits. This basal sand and gravel bed indicates probable disconformity between the unit and the underlying clay member of the Raritan Formation. Thickness of Magothy-Matawan strata in Queens County ranges from 0 to 450 ft; the thickest section is in the Far Rockaway area. Thickness of the deposits varies greatly because of erosion near the end of and after Late Cretaceous time. Magothy-Matawan strata are missing in northern and northwestern Queens County and also in the buried valley trending southward from the Flushing Meadow Park area.

The position of the surface of the Magothy-Matawan unit is shown by contours in plate 2D. The intensity of erosion of the unit can be seen from the contour pattern, which shows a well-developed, ancient topographic relief. Magothy-Matawan beds do not crop out in Queens County. The surface of the unit is above sea level only in an area of approximately 4 mi^2 in the northeastern part of the county, in the vicinities of Bellerose, Floral Park, and Douglaston. The highest part of the Magothy-Matawan surface is approximately 50 ft above sea level in Douglaston. Its surface is deepest in the buried valley, from John F. Kennedy International Airport to Belle Harbor, where it is more than 400 ft below sea level. Only the basal Magothy-Matawan beds occur in the unit's northernmost extent in the county, and the thickest section of the unit, at Far Rockaway, is probably only one-third to one-half its original thickness. The greatest known thickness of Magothy-Matawan

strata on Long Island, 1,059 ft, was determined by the author in 1975 at a deep observation-well installation at Smith Point, Fire Island, in Suffolk County, 47 mi east of Far Rockaway (well S52162, not shown in this report). In the Fire Island vicinity, the Magothy-Matawan unit is inferred to be unconformably overlain by the Upper Cretaceous Monmouth Group of marine origin (Jensen and Soren, 1974, sheet 1) because some erosion of uppermost Magothy-Matawan beds prior to deposition of the Monmouth seems to have occurred there.

The Magothy-Matawan unit is an important aquifer (Magothy aquifer) in Queens County. Intensive development of the aquifer started in the 1950's. About one-third of the 60 Mgal/d of water that was pumped mostly for public supply in the County in the 1960's came from this unit (Soren, 1971, p. 26). In the mid-1970's, pumpage from all the County's aquifers had risen to 70 Mgal/d (New York State Department of Environmental Conservation, written commun., May 1, 1973, and R. J. O'Reilly, oral commun., Aug. 5, 1975). Although a breakdown of pumpage by aquifer is not available for the years 1972 to 1975, pumpage from the Magothy-Matawan unit is estimated to have increased to more than half of the ground-water pumpage in the County during this period. Individual wells screened in the Magothy-Matawan strata have commonly been pumped at sustained rates of 1,500 gal/min during their developmental stages.

The Magothy-Matawan unit is poorly confined in the northern part of Queens County; in the southern part, where it is overlain by the Gardiners Clay, it is well confined (Soren, 1971, p. 10). In the extreme southern part, at and near The Rockaway Peninsula, water in the unit is salty (Soren, 1971, pl. 1).

Pleistocene Deposits

Pre-Sangamon deposits

Jameco Gravel.--The Jameco Gravel seems to have been deposited by streams in Queens County. The unit is found only in buried valleys, where it unconformably overlies older formations. It is unconformably overlain by the Gardiners Clay, of Sangamon age, except in the Glendale-Woodhaven-Ozone Park areas, where the Gardiners is missing. Here the Jameco is unconformably overlain by upper Pleistocene deposits (pl. 1B, section D-D').

Jameco deposits are the oldest Pleistocene sediments on Long Island. The Jameco is pre-Sangamon; otherwise its age is uncertain. The unit has been believed to be of Kansan or Illinoian ages; however, the most recent estimate of the formation's age is that it is Illinoian (Williams, 1976, p. 22).

Jameco deposits are mostly of coarse sand and granule to cobble gravel; boulders are commonly reported by well drillers. Larger rock

fragments are composed mainly of granite, diabase, gneiss, schist, sandstone, and shale; smaller particles contain much of the same rock types and small to significant amounts of quartzose sand. The deposits become finer grained southward; the coarsest materials are in and near the thalweg of the buried valley from the Flushing Meadow Park area southward. Jameco deposits are generally dark brown and dark gray. Thickness of the Jameco ranges from 0 to 250 ft.

The stream that carried the Jameco materials into the County probably originated as melting glacial ice north of the County (deLaguna, in Suter and others, 1949, p. 41). Numerous diabase fragments in the Jameco indicate that the transporting stream had contact with the Palisades, a sill composed predominantly of diabase, at the west side of the Hudson River in New Jersey (fig. 1).

The position of the surface of the Jameco Gravel is shown in plate 2E. The unit occurs only in the central and southern parts of Queens County and in a small area of about 0.25 mi^2 near Maspeth, in western Queens. The formation is not believed by the author to be present in the buried valley from Flushing Meadow Park northward; the northernmost limit of the unit seems to be where the Harbor Hill moraine crosses the valley. Well logs do not show clearly definable Jameco deposits in the northern part of the buried valley, and it is probable that any Jameco deposits there were excavated and redeposited during Wisconsin glaciation. The Harbor Hill glacial advance terminated between sections C-C' and D-D' (pl. 1B), about 1.5 mi north of D-D'. Erosion of Jameco deposits does not seem to be significant in other parts of the county.

Jameco beds do not crop out in Queens County. Altitude of the Jameco surface ranges from approximately 80 ft below sea level in the Glendale and Laurelton areas to more than 200 feet below sea level in the Belle Harbor area of the Rockaway Peninsula.

The Jameco Gravel is a source of water in Queens County (Jameco aquifer). Individual wells screened in the Jameco strata have commonly been pumped at sustained rates of 1,500 gal/min during their developmental stages. In the 1960's, the Jameco was moderately developed for water supply at about 4.5 Mgal/d and about 2.5 Mgal/d in the mid-1970's (New York State Department of Environmental Conservation, written commun., May 1, 1973, and R. J. O'Reilly, oral commun., Aug. 5, 1974).

Water in the Jameco is well confined by the overlying Gardiners Clay, except where the Gardiners is missing in the Glendale-Woodhave-Ozone Park areas of the County (pl. 1B, section D-D'); in these areas water can readily move vertically between the Jameco and overlying glacial sand and gravel of Wisconsin age. Because the Jameco lies in a valley cut into the Magothy Formation-Matawan Group undifferentiated, ground water can readily move laterally between these units. At and near the Rockaway Peninsula, water in the Jameco is salty (Soren, 1971, pl. 1).

Sangamon deposits

Gardiners Clay.--The Gardiners Clay is an interglacial deposit of marine origin and contains fossil foraminifers, pelecypods, and gastropods. The formation unconformably overlies the Jameco Gravel and older formations in different parts of Queens County and is unconformably overlain by upper Pleistocene deposits.

Gardiners strata are mostly clay with some intercalated thin sandy and gravelly beds. The clays in the unit are mostly grayish green and, less commonly, dark gray. (The unit is generally described as "blue clay" by well drillers.) Minerals commonly found in the clays are muscovite, biotite, chlorite, quartz, pyroxene, glauconite, and amphibole; disseminated lignite is common in the unit.

Gardiners Clay beds do not crop out anywhere in the County. The formation is found only in the central and southern parts of Queens, and its surface lies mostly from 50 ft to 200 ft below sea level, descending southward. The position of the Gardiners surface is shown in plate 2F. Thickness of the Gardiners ranges from 0 to 150 ft; thickest deposits are where the unit overlies the Jameco Gravel in the buried valley. The Gardiners is missing in the Glendale-Woodhaven-Ozone Park area. It is not certain whether the formation was not deposited there or was eroded.

The surface of undisturbed Gardiners Clay has not been found higher than 40 ft below sea level anywhere on Long Island, and this altitude is probably at or near the maximum sea level in Sangamon time.

Gardiners Clay deposits have not been positively identified in northern Queens County. It is probable that during Wisconsin glaciation the unit was excavated and redeposited, as seems to have been the case with the underlying Jameco Gravel in the area.

The importance of the Gardiners Clay in Queens County is that it confines water in the underlying Jameco Gravel and Magothy Formation-Matawan Group undifferentiated.

Upper Pleistocene deposits

The name "upper Pleistocene deposits" was used by deLaguna (1948, p. 8 and 16) to include strata of Wisconsin age between the Gardiners Clay and Holocene deposits. Upper Pleistocene deposits range in thickness from 0 to 300 ft and are chiefly composed of glacial-drift material such as till, lacustrine deposits, and outwash sand and gravel. The upper Pleistocene deposits usually contain many unstable individual-mineral grains such as biotite, chlorite, feldspar, and hornblende as well as many compound-mineral grains containing these minerals; coarse-grained deposits and till often contain easily recognizable fragments of igneous, metamorphic, and

sedimentary rocks. The deposits also contain fossil plant material, disseminated in coarse-grained deposits and both disseminated and bedded in fine-grained deposits, in stages from fairly fresh in appearance to peat. Upper Pleistocene deposits unconformably overlie the older formations in Queens County. Areal distribution of glacial drift in the county is shown in Fuller (1914, pl. 1) and, in modified form, in Soren (1971, pl. 1).

In the Far Rockaway area, a clay unit of marine origin known as the "20-foot clay" occurs within upper Pleistocene deposits of outwash (Perlmutter and Geraghty, 1963, p. 36-37, and pl. 7, section X-X', also shown in this report in pl. 1B, section B-B'). The 20-foot clay was first described by Perlmutter and others (1959, p. 422) in the southwestern part of Nassau County, adjacent to Queens County, and was named for the fact that it was discovered 20 ft below sea level. The lithology and fauna of the 20-foot clay are similar to those of the Gardiners Clay (Perlmutter and Geraghty, 1963, p. 37); Weiss (1954, p. 143) states that the most abundant species of Foraminifera found in the Gardiners are still living locally and therefore are not restricted to the Pleistocene. Thickness of the 20-foot clay ranges from 0 to 40 ft.

The 20-foot clay is probably an interstadial deposit. Two ice-sheet advances seem to have occurred in late Wisconsin time; their terminal positions on Long Island are marked in Nassau and Suffolk Counties east of Queens County by the Ronkonkoma Terminal Moraine and the younger Harbor Hill Terminal Moraine. Only the Harbor Hill is visible in Queens County. The 20-foot clay probably was deposited during a period of rising sea level between the glacial advances. Glacial deposits below the 20-foot clay were probably deposited by the Ronkonkoma ice-sheet advance and retreat.

From earliest times of development through the 1950's, most pumping in Queens County was from outwash in upper Pleistocene deposits (upper glacial aquifer). By the 1960's, pumpage from this aquifer in Queens County constituted approximately one-half the total and, by the mid-1970's, only about one-third of the total (New York State Department of Environmental Conservation, written commun., May 1, 1973, and R. J. O'Reilly, oral commun., Aug. 5, 1974). Individual wells screened in outwash have commonly been pumped at sustained rates of 1,500 gal/min during their developmental stages.

Water in the upper Pleistocene deposits is mostly unconfined (under water-table conditions); in the northern part of Queens County, however, local confining conditions are created by complex interbedding of layers of sand and gravel and clayey and silty ground moraine (Soren, 1971, p. 8).

Upper Pleistocene deposits are shown but not differentiated in geologic sections A-A' through D-D', except for the 20-foot clay shown in section B-B' (pl. 1B).

Surficial Geology

The surficial glacial deposits in Queens County consist mainly of ground moraine in the northern part and outwash in the southern part. The areas are separated by the Harbor Hill moraine, which traverses the County from Glendale to Floral Park. Holocene surficial deposits consist of shore and salt-marsh deposits in the southern part of the County; artificial fill has been used in many places to extend and reinforce shorelines and to eliminate swampy areas. Surficial geology is described and illustrated in Soren (1971, p. 6-7 and pl. 1). A few small outcrops of preglacial formations occur in the western and north-central parts of the County.

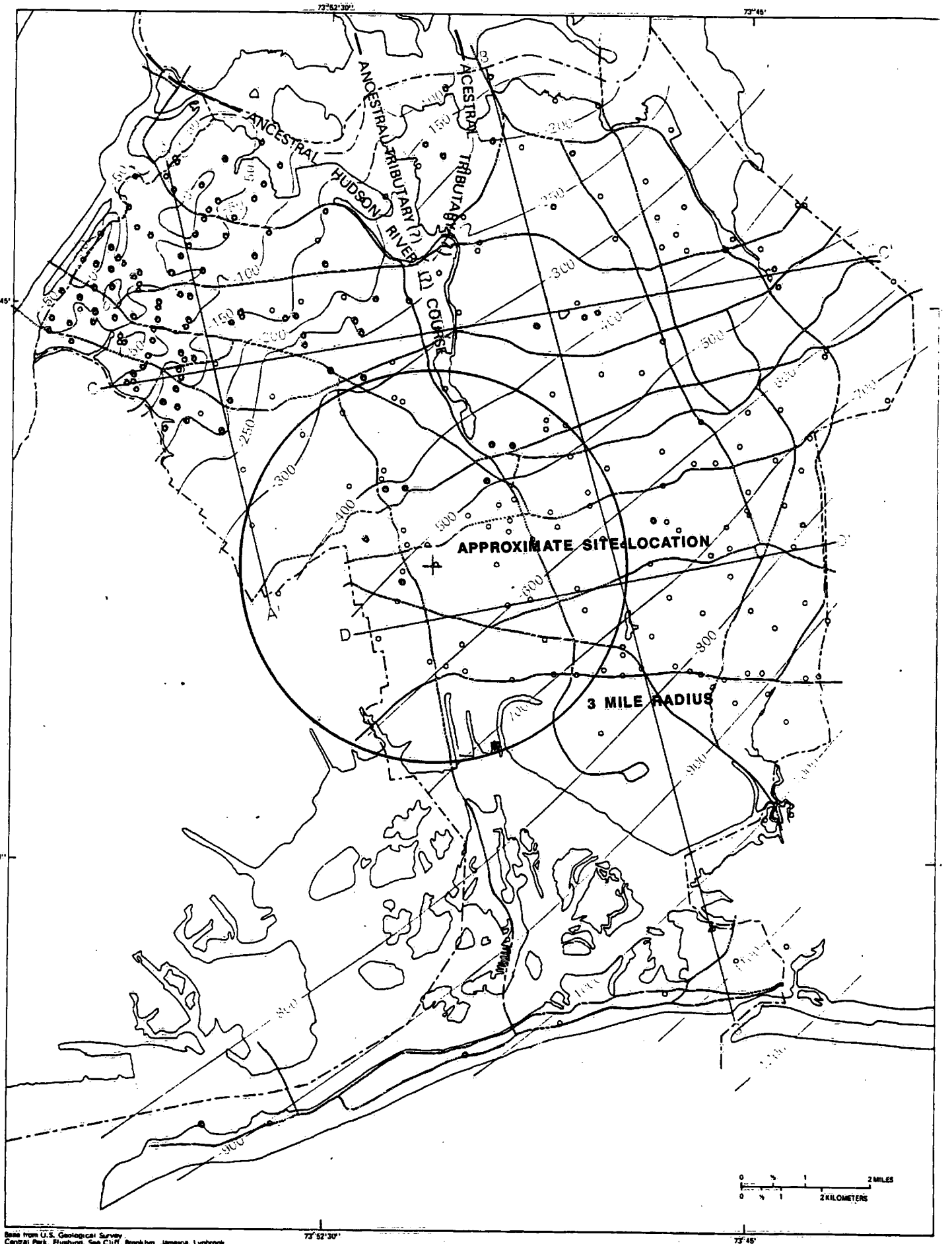
PALEOGEOGRAPHY

Buried Valley of Ancestral Hudson River(?) in Queens County

A major buried valley stream traverses all of Queens County from north to south. The valley was cut through the Cretaceous formations into bedrock as far as the southern end of the Flushing Meadow Park area (pl. 2A-2D). From the park area southward, the valley was cut deeply into the Magothy Formation-Matawan Group undifferentiated to more than 400 ft below sea level (pl. 2D). The valley cutting was done by a stream system that apparently started late in the Late Cretaceous Epoch and probably continued into the Pleistocene Epoch to Jameco time. From Jameco time through the end of Pleistocene time, the valley system was buried by the Jameco Gravel, Gardiners Clay, and upper Pleistocene deposits. Evidence given in the following paragraphs indicates that the ancestral Hudson River(?) flowed through the main channel of this valley system.

Two tributary streams are indicated to have entered the ancestral Hudson course in the College Point vicinity (pl. 2A). One of these streams, probably an ancestral Bronx River, entered between the New York Municipal Airport and College Point; the second stream entered from between College Point and Whitestone. The second stream, which was in alinement with today's Westchester Creek in Bronx County, was probably associated with an ancestral Hutchinson River, also in Bronx County. These tributaries eroded to bedrock (pl. 2A) and left an isolated body of the Raritan Formation between them in the College Point area (pl. 2B, 2C).

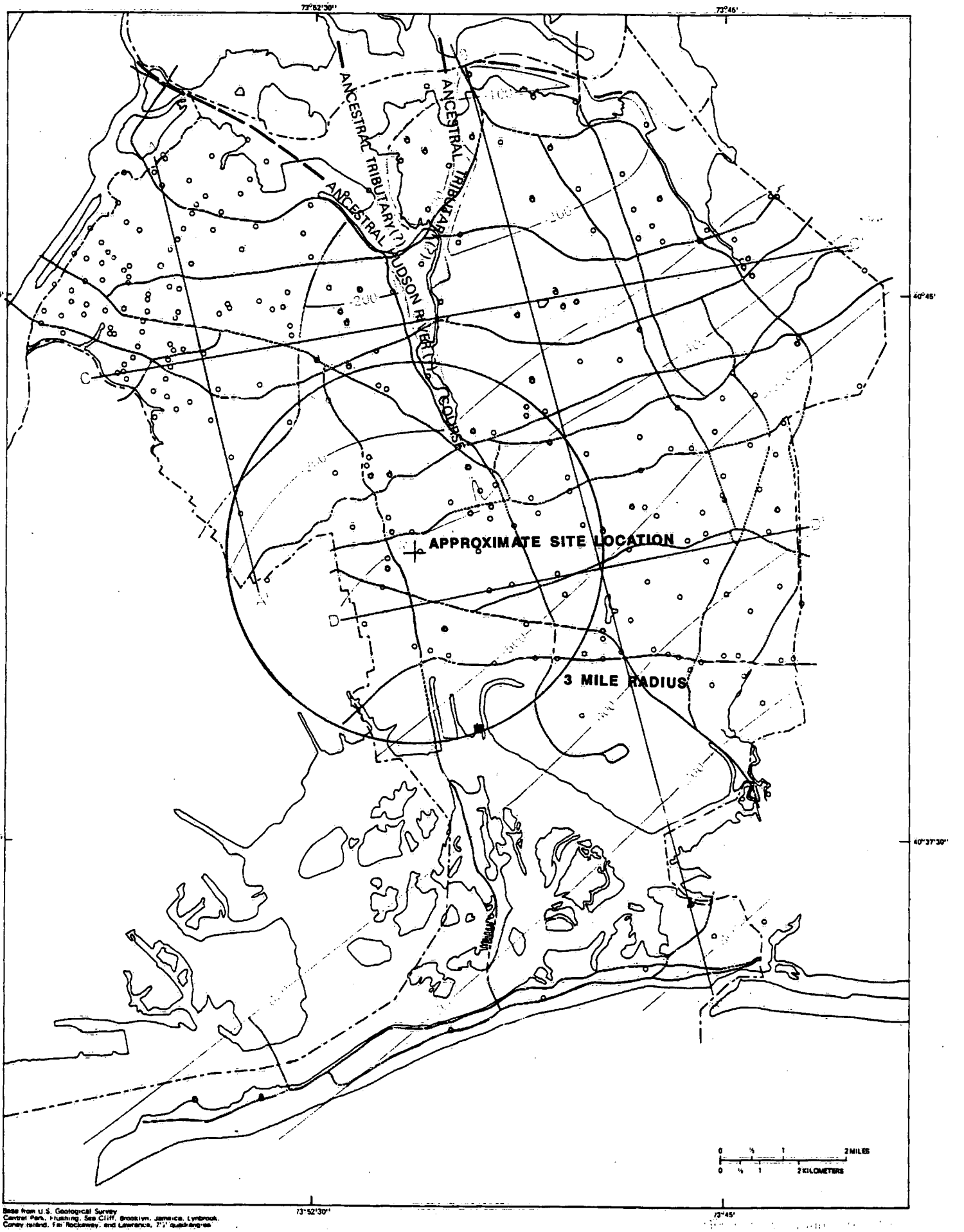
The buried valley in Queens County was depicted by Veatch (1906, pl. 6) as having been cut in Tertiary time by a stream named the Sound River, which he showed to flow into Queens from Connecticut. Veatch also indicated that the main feeders into the Sound River were the ancestral Housatonic and Connecticut Rivers, 40 mi and 80 mi east of Queens, respectively. Veatch (1906, pl. 6) depicts the ancestral Hudson River as having flowed across the west end of Kings County, where it joined the Sound River south of Queens County. DeLaguna (1948, p. 14) gives evidence that precludes the



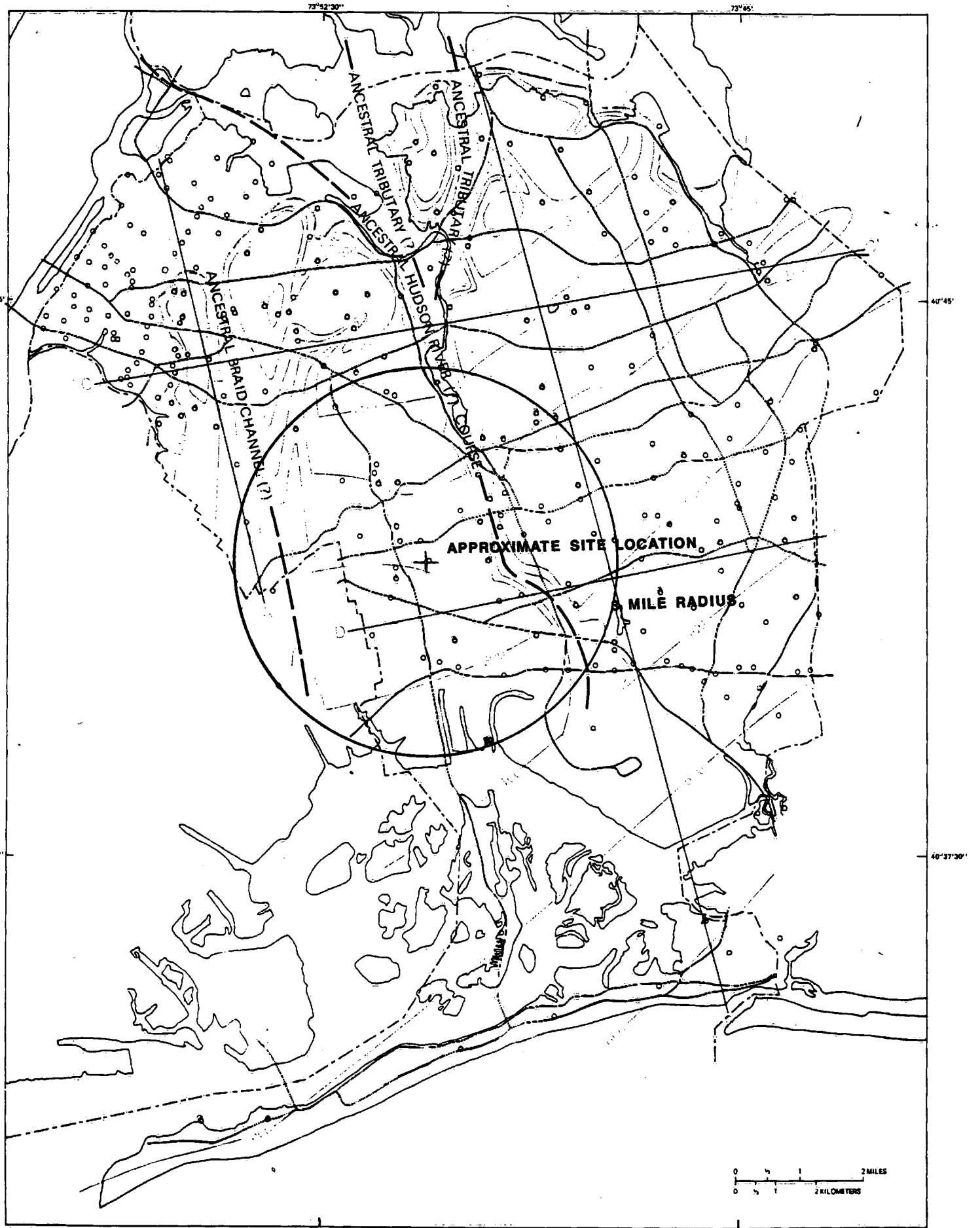
Base from U.S. Geological Survey
Central Park, Flushing, Sea Cliff, Brooklyn, Jamaica, Lynbrook, Coney Island, Far Rockaway, and Lawrence, 7½' quadrangles

Geology by Julian Soren 1975

A. BEDROCK SURFACE IN QUEENS COUNTY

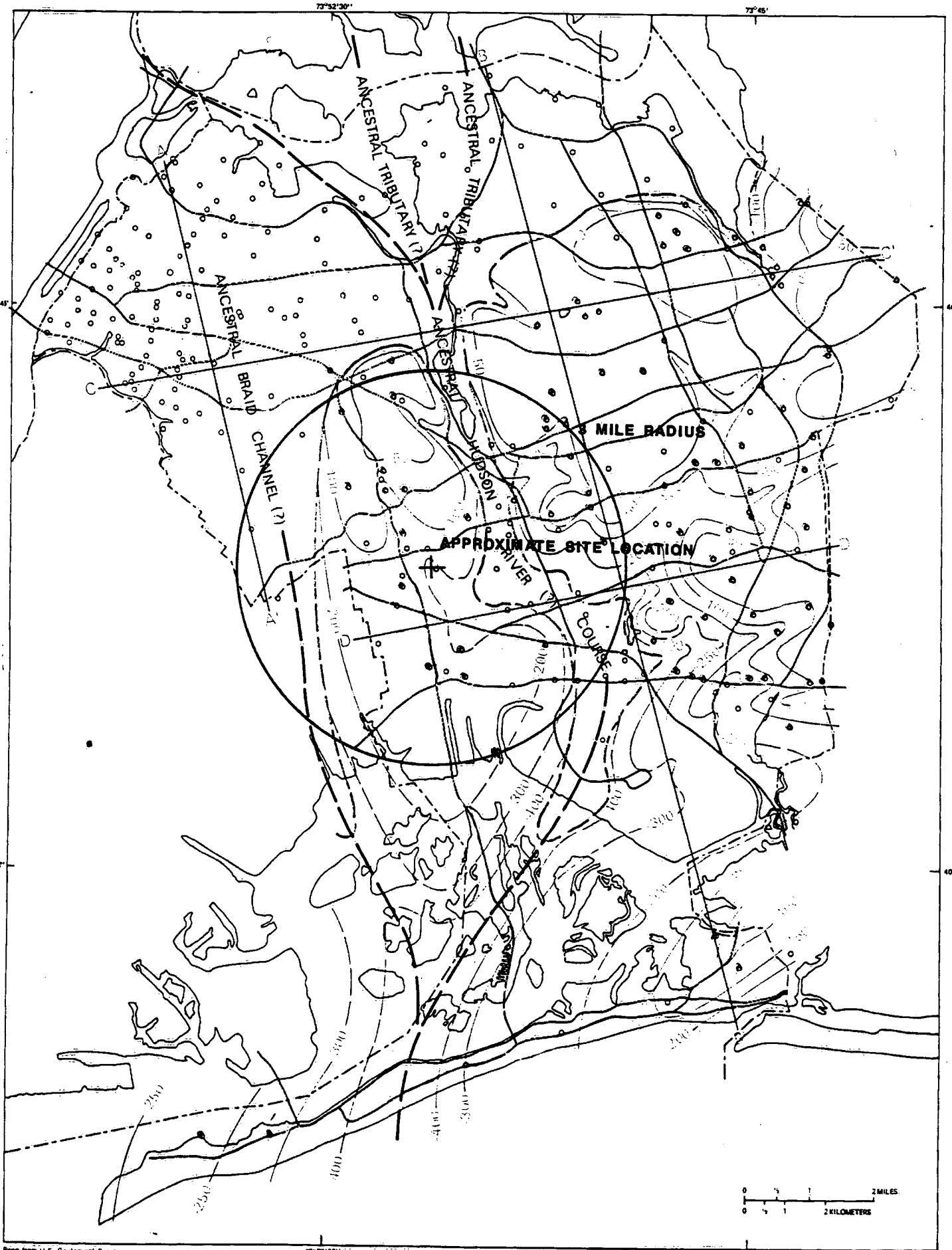


B. LLOYD SAND MEMBER SURFACE IN QUEENS COUNTY



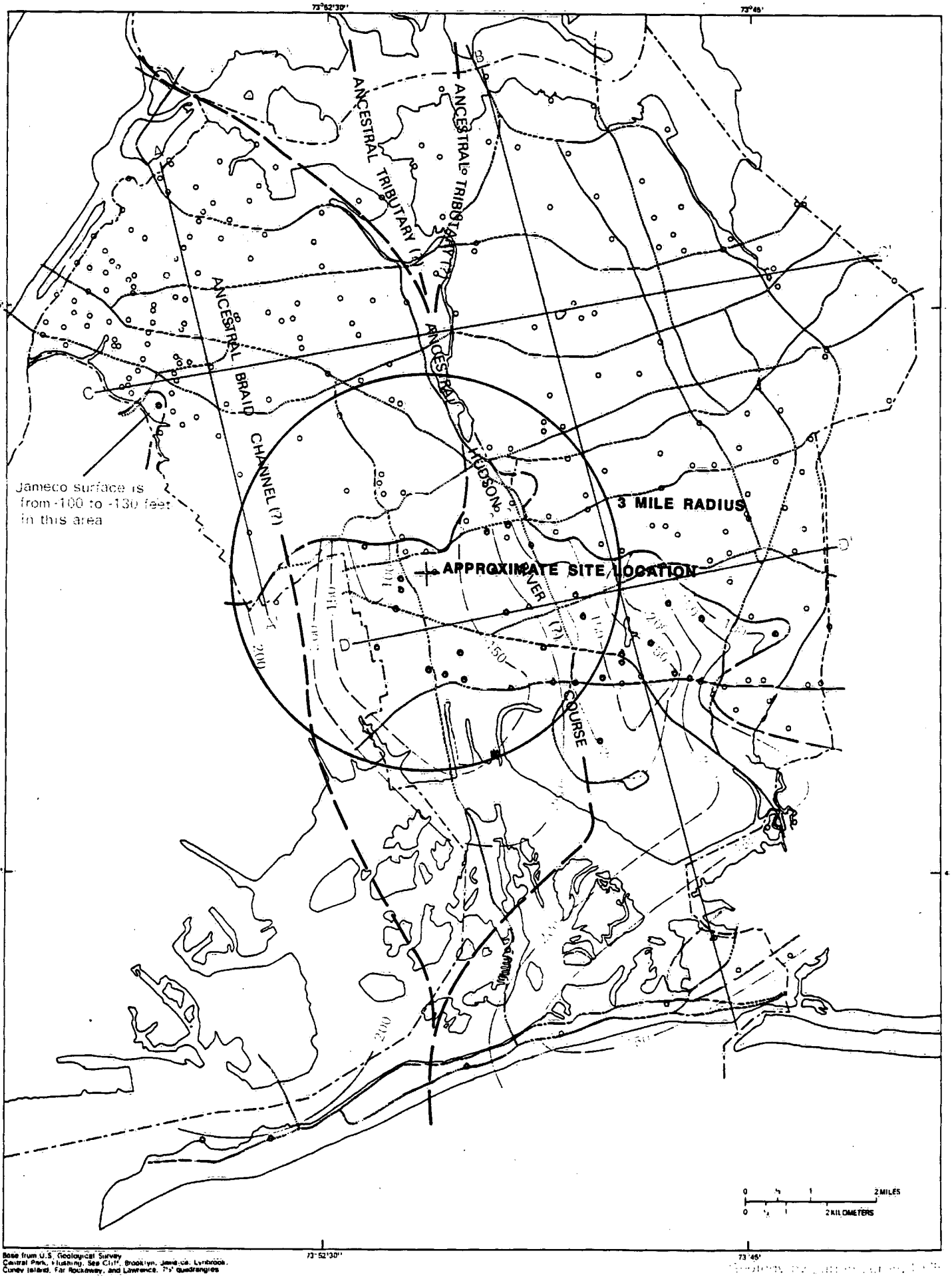
Base from U.S. Geological Survey
Central Park, Flushing, Sea Cliff, Brooklyn, Jamaica, Lynbrook, Coney Island, Far Rockaway, and Lawrence, 7½' quadrangles

C. CLAY MEMBER SURFACE IN QUEENS COUNTY

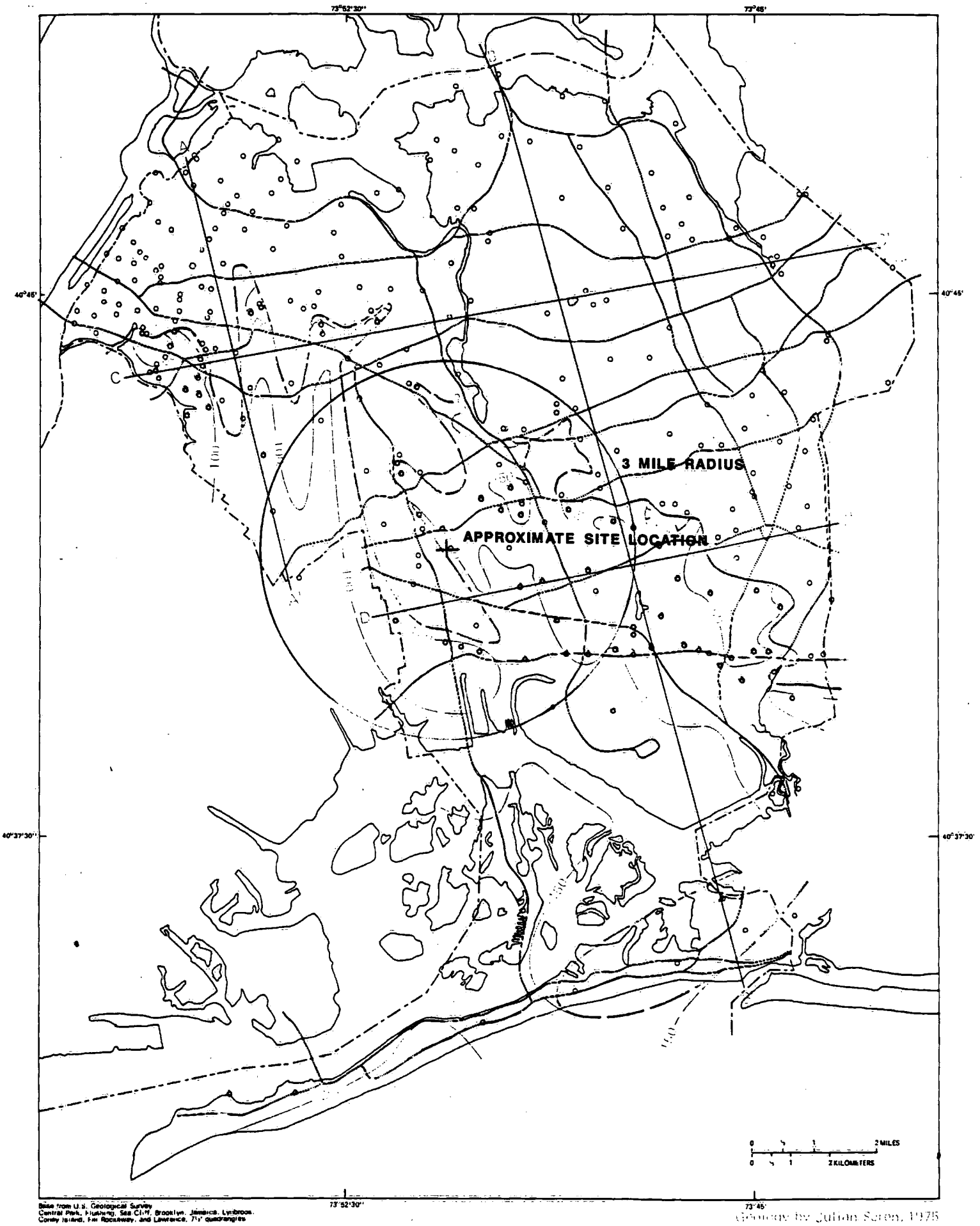


Base from U.S. Geological Survey
Central Park, Flushing, Sea Cliff, Brooklyn, Jamaica, Lynbrook, Coney Island, Far Rockaway, and Lawrence, 7½' quadrangles

D. MAGOTHY-MATAWAN SURFACE IN QUEENS COUNTY



E. JAMECO GRAVEL SURFACE IN QUEENS COUNTY



Base from U.S. Geological Survey
Central Park, Flushing, Sea Cliff, Brooklyn, Jamaica, Lynbrook,
Coney Island, Far Rockaway, and Lawrence, 7½' quadrangles

Geology by Julian Soren, 1975

F. GARDINERS CLAY SURFACE IN QUEENS COUNTY

REFERENCE NO. 12

Ground-Water and Geohydrologic Conditions in Queens County, Long Island, New York

By JULIAN SOREN

WATER IN THE URBAN ENVIRONMENT

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 2001-A

Prepared in cooperation with the New York State Department of Environmental Conservation, Division of Water Resources

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON : 1971

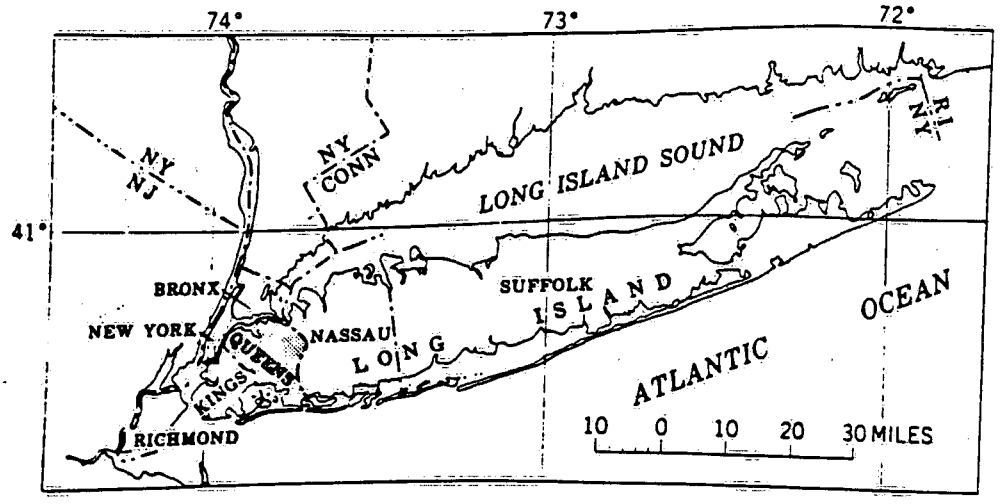


FIGURE 1.—Location of Queens County and general regional geography.

overlooking and locally jutting into the East River between various salt-water bays. A narrow ridge trends about east-northeast across the central part of the county north of and parallel to Jamaica Avenue (pl. 1). The base of the ridge is at an altitude of about 100 feet above mean sea level, and the width of the base ranges from about 0.75 mile on the western part of the county to about 1.5 miles on the eastern part. The crest of the ridge ranges in altitude from about 160 feet on the west to about 260 feet on the east.

Two flat-bottomed valleys extend northward from the ridge to the East River. The larger valley, Flushing Meadow, is in the central part of the area, and the smaller valley, Alley Creek, is near the eastern border of the county. A plain slopes gently southward from the ridge to Jamaica Bay. The southernmost part of the county, the Rockaway Peninsula, lies south of Jamaica Bay and is mainly a barrier bar which trends west-southwest into the Atlantic Ocean. The surface of the peninsula generally is 10 feet or less above sea level, and its maximum height is about 23 feet above sea level in Far Rockaway.

DRAINAGE

According to U.S. Weather Bureau statistics, the long-term average annual precipitation in Queens County is about 44 inches, but precipitation averaged about 33 inches annually from 1962 through 1966, a period of drought in the area. Most of the precipitation runs off paved surfaces to sewers and is discharged to tidewater. Some precipitation, however, penetrates the land surface, principally in unpaved areas, and percolates downward to the water table where it joins the ground-water body. (See the

section "Inflow and recharge of ground water.") Little precipitation in the county enters natural streams by direct runoff.

In contrast with the many streams that existed in 1897 (as shown on older U.S. Geological Survey topographic maps—Brooklyn, Harlem, Hempstead, and Oyster Bay quadrangles), only a few streams occur in Queens County at present. Brookfield Stream and three former streams, all of which flowed into Jamaica Bay, had a combined discharge of about 13 mgd in the mid-1850's (Veatch and others, 1906, p. 366). Although data are not available for the many other streams in preurban Queens County, the total stream discharge from the county probably exceeded 30 mgd and doubtless consisted mostly of ground-water seepage.

Most of the streams disappeared because of lowering of the water table, artificial filling of channels, and reduction of runoff resulting from other aspects of urbanization. The present streams are in near-shore areas where the water table is near the land surface. Of these present streams, Flushing and Alley Creeks flow northward to Flushing and Little Neck Bays, respectively, and Brookfield Stream flows southward to Jamaica Bay. (See pl. 1.) Flushing Creek is dammed by a tidegate near its mouth, and there is no visible natural outward flow to Flushing Bay. The amount of water that enters Flushing Creek apparently is about equal to evaporation losses from the ponds (Meadow and Willow Lakes) on it. The headwaters of Brookfield Stream originally were in Nassau County, but lowering of the water table has dewatered the upstream reach of this stream.

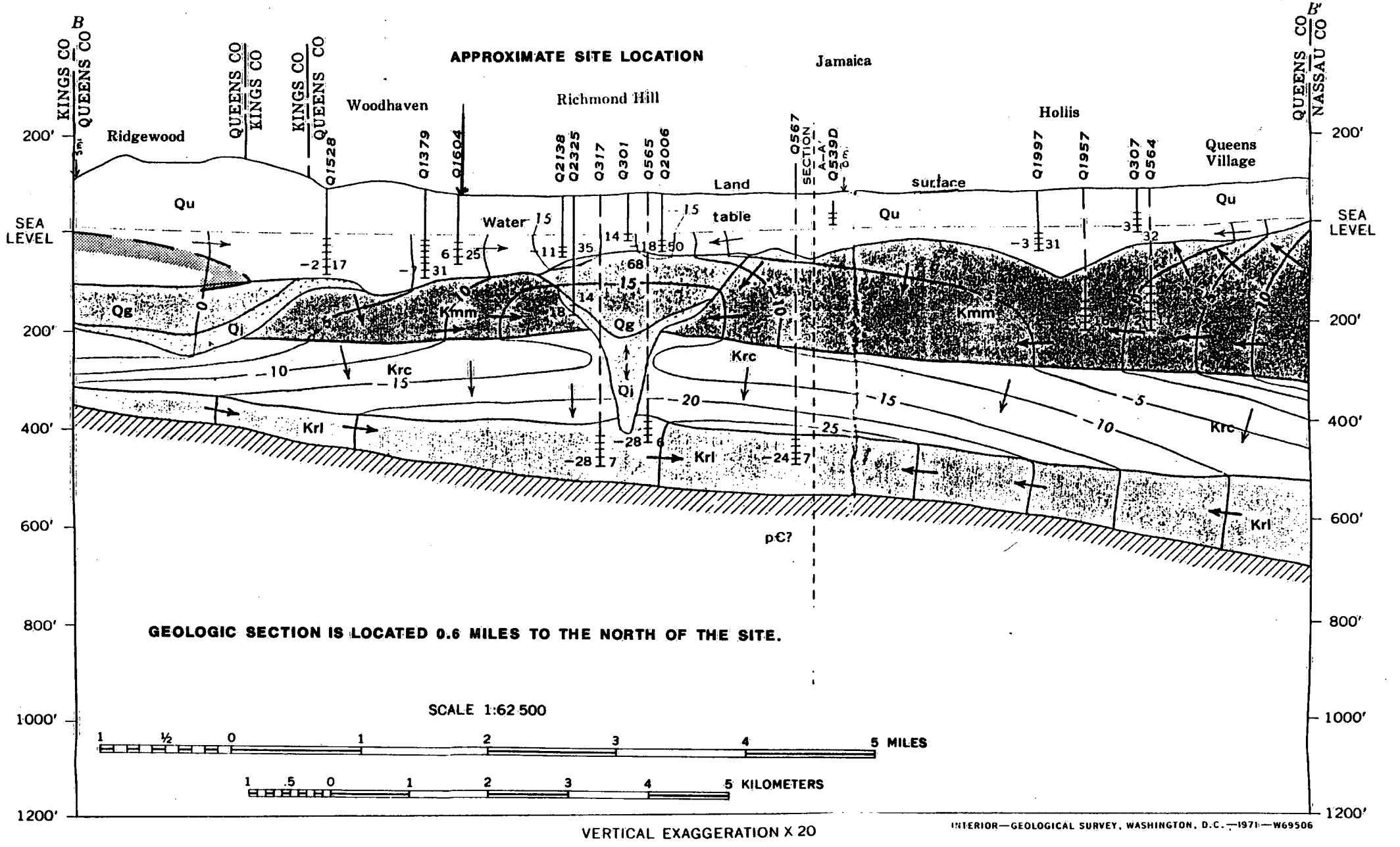
Selected discharge measurments obtained by the U.S. Geological Survey at Alley Creek and Brookfield Stream are given in the following table:

Stream	Location of measuring site	Date of measurement	Discharge (cubic feet per second)
Alley Creek	South side of Northern Boulevard.	June 17, 1967	2.3
		Jan. 15, 1963	3.6
		Apr. 10, 1962	4.9
Brookfield Stream	About 0.6 mile south of Southern Parkway.	June 19, 1967	.2
		Feb. 5, 1963	.4
		Mar. 9, 1955	2.0
		Aug.–Dec. 1852	3.9–7.4

CULTURE

Although highly urban areas occur throughout the county, suburban communities characterized by one- and two-family homes are common. Urban characteristics are most highly developed in

GEOLOGIC CROSS SECTION



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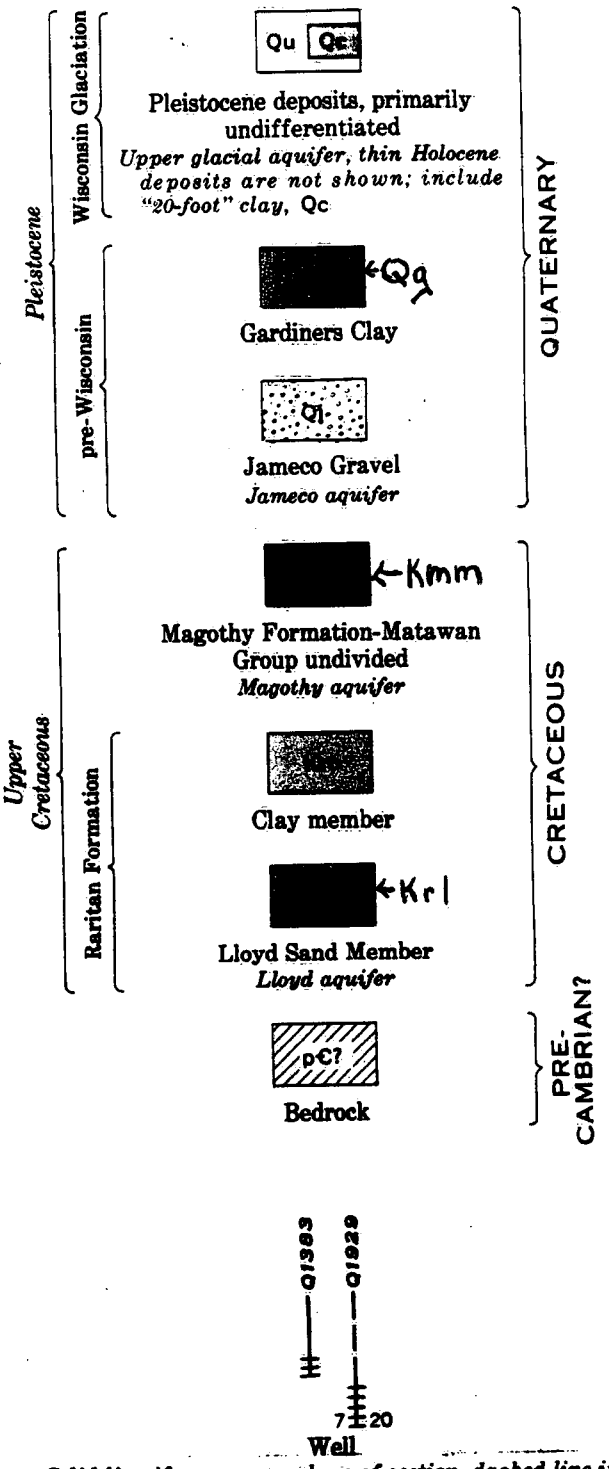
EXPLANATION

SECTIONS



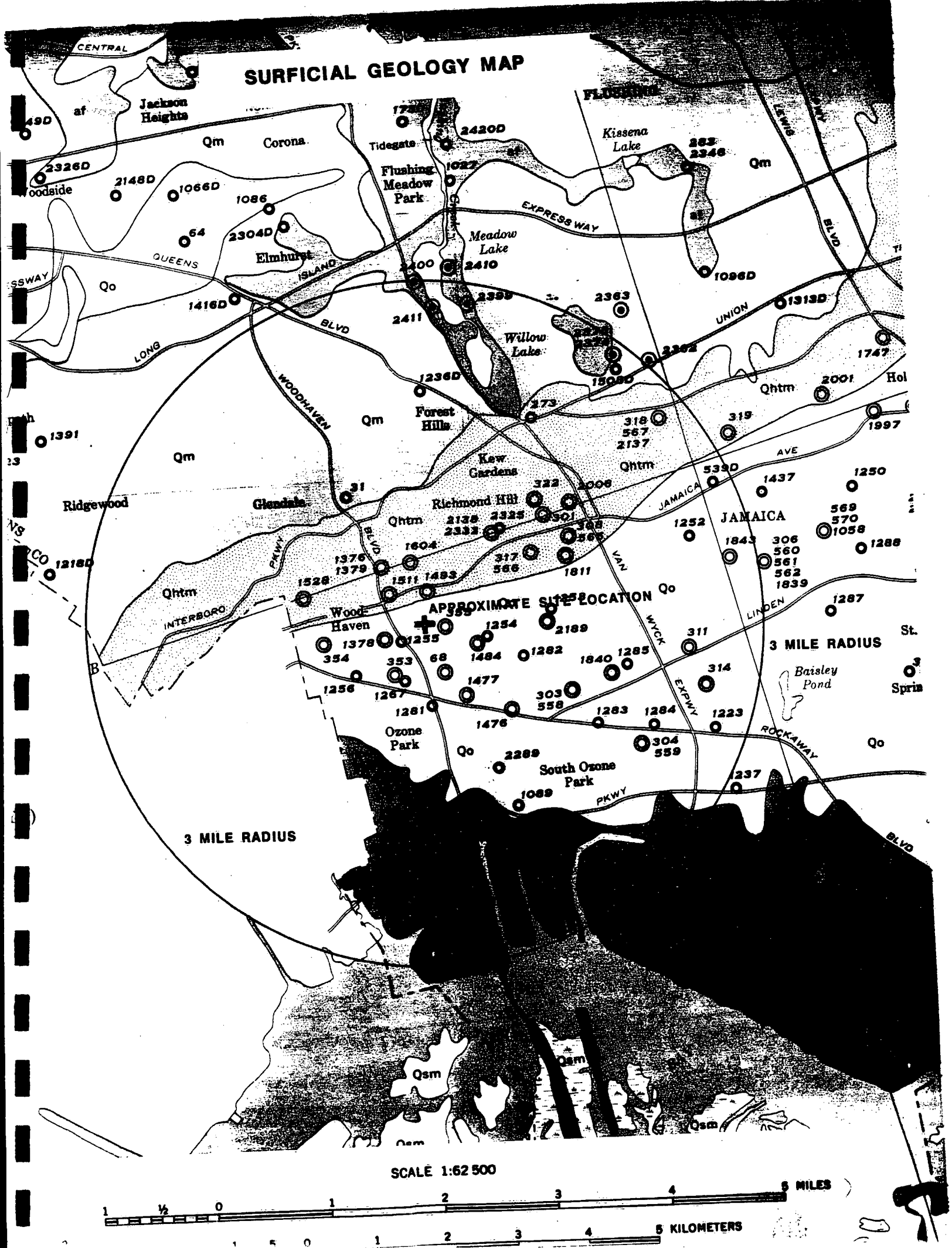
Solid line if on or near plane of section, dashed line if projected; lined part at bottom represents screened interval. Number at top is local well number. Number at left of screen symbol is ground-water head at screen, in feet above or below (−) mean sea level; number at right is chloride content of water, in milligrams per liter, at screen

GEOLOGIC AND HYDROGEOLOGIC UNITS

Major water-bearing units are indicated by blue shading

GEOLOGIC AGE: SYSTEM	GEOLOGIC AGE: SERIES	GEOLOGIC UNIT	HYDROGEOLOGIC UNIT	APPROXIMATE THICKNESS, IN FEET	APPROXIMATE ALTITUDE OF UPPER SURFACE, IN FEET, ABOVE OR BELOW MEAN SEA LEVEL	HYDROLOGIC PROPERTIES	CHARACTER OF DEPOSITS[1]
QUATERNARY	Holocene	Shore and salt-marsh deposits and artificial fill	Upper	0–50	(2)	Beach sand and gravel and dune sand, tan to white; black, brown, and gray bay-bottom deposits of clay and silt; artificial fill. Beach and dune deposits are mostly stratified and well sorted. Fill includes earth and rocks, concrete fragments, ashes, rubbish, and hydraulic fill.	Beach and dune deposits in the southern part of the county contain saturated permeable zones and thin lenses of fresh water underlain by salty ground water. In other parts of the county, Holocene deposits are mostly above the water table. Clay and silt deposits prevent or retard salty water from invading the underlying strata in shore areas.
QUATERNARY	Pleistocene	Wisconsin Glaciation (upper Pleistocene deposits) — Harbor Hill (and Ronkonkoma?) drift: Till deposits (terminal and ground moraine)	Upper glacial aquifer	0–150	(3)	Ground- and terminal-moraine deposits of clay, silt, sand, gravel, and boulders; mostly unstratified and unsorted. Rock and mineral compositions are similar to those in outwash deposits. (See below.)	Generally poorly permeable; sandy lenses in saturated till yield small amounts of water to wells. The ground-moraine deposits are mostly above the water table, but locally they confine water in underlying strata.
QUATERNARY	Pleistocene	Wisconsin Glaciation — Harbor Hill (and Ronkonkoma?) drift: Lake deposits[4]	Upper glacial aquifer	0–80?	20 to −30	Clay, silt, and fine sand, grayish-brown and light-to chocolate-brown; commonly contain peat; probably deposited in glacial lakes. Penetrated by drilling in the Flushing Meadow area between College Point and Whitestone and between Jamaica and Hollis; otherwise, extent is largely unknown.	Poorly permeable; confine water in underlying sand and gravel deposits.
QUATERNARY	Pleistocene	Wisconsin Glaciation — Harbor Hill (and Ronkonkoma?) drift: [illegible]	Upper glacial aquifer	[illegible]150	[illegible]	[illegible]	Generally [illegible] constitute an intensively developed [illegible] aquifer south of the Harbor Hill [illegible] yield as much as 1,500 gpm [illegible] to wells.
QUATERNARY	Pleistocene	Wisconsin Glaciation: "20-foot" clay	Upper glacial aquifer	0–40	−20 to −40	Clay, silt, and sand, grayish-green; commonly contains fossil diatoms and marine shells; usually underlain and overlain by outwash deposits; contains fine particles of various rocks and minerals similar to those in outwash and till; commonly contains glauconite.	Poorly permeable; probably confines water in the underlying deposits in the southernmost part of the county.
		UNCONFORMITY					
QUATERNARY	Pleistocene	Sangamon Interglaciation: Gardiners Clay	Gardiners Clay	0–150	−40 to −200	Marine clay and silt and scattered beds of fine to coarse sand and fine gravel, grayish-green; frequently contains fossil shells and diatoms and rock and mineral fragments similar to those in the "20-foot" clay. (See above.)	Poorly permeable; confines water in the underlying Jameco Gravel and Cretaceous strata in the south-central and southern parts of the county.
		UNCONFORMITY					
QUATERNARY	Pleistocene	Jameco Gravel	Jameco aquifer	[illegible]	[illegible]	[illegible]	Generally [illegible] Water in the aquifer is confined [illegible] Gardiners Clay in southern [illegible] except in parts of the [illegible] Wells tapping Jameco [illegible] as much as 1,500 [illegible]
UNCONFORMITY							
CRETACEOUS	Upper Cretaceous	Matawan Group–Magothy Formation, undifferentiated	Magothy aquifer	[illegible]	[illegible]	[illegible]	[illegible] the amounts of [illegible] sand and silty [illegible] moderately permeable [illegible] 1,500 gpm [illegible] sorted beds.
		UNCONFORMITY					
CRETACEOUS	Upper Cretaceous	Raritan Formation: Clay member	Raritan clay	0–200	30 to −650	Clay, silty clay, and clayey fine sand, light- to dark-gray, brownish-red, red, pink, and grayish-white. Beds and lenses of lignite, pyrite, and sand are common, and thin beds of gravel occur locally. Accessory minerals are of chemically stable types, such as those in the Magothy aquifer. (See above.)	Poorly permeable; confines water in the underlying Lloyd aquifer but does not completely prevent vertical movement of water.
CRETACEOUS	Upper Cretaceous	Raritan Formation: [illegible]	[illegible]	0–[illegible]	[illegible]	[illegible]	[illegible]
UNCONFORMITY							
PRECAMBRIAN?	Not known	Bedrock	Bedrock[7]		15 to −1,100	Schists and gneisses with granitic and pegmatitic intrusions. Beds of marble occur below the East River at the west border of the county. The uppermost surface of the rocks is commonly weathered and forms a zone of decomposed rock fragments and residual clay, as much as 70 feet thick, grading downward to unweathered rock.	Poor to fair aquifer; yields small to moderate quantities of water from fractures and foliation planes in the upper part.

[1] Based largely on descriptions by Suter, deLaguna, and Perlmutter (1949, p. 13–24).
[2] From land surface in various parts of the county to unknown, generally shallow depths of bay bottoms.
[3] At land surface in the northern part of the county.
[4] Unit not differentiated [illegible]
[5] At land surface south of Harbor Hill [illegible] at land surface [illegible] north of the moraine.
[6] Formerly called "Magothy(?) [illegible] p. 9).
[7] The bedrock surface [illegible] in Queens County.

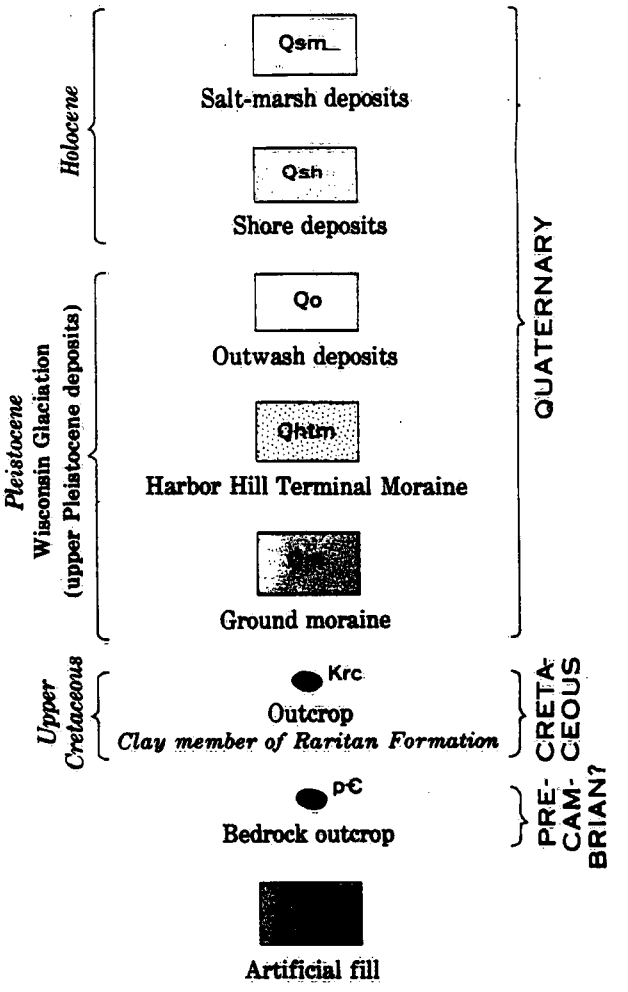

SURFICIAL GEOLOGY MAP
APPROXIMATE SITE LOCATION
3 MILE RADIUS
3 MILE RADIUS
Jackson Heights
Corona
Tidegate
Flushing Meadow Park
Kissena Lake
Meadow Lake
Willow Lake
Elmhurst
Forest Hills
Kew Gardens
Richmond Hill
Ridgewood
Glendale
JAMAICA
Wood Haven
Ozone Park
South Ozone Park
Baisley Pond
Qm
Qo
Qhtm
Qsm
af
EXPRESS WAY
QUEENS
LONG ISLAND
EXPWY
BLVD
PKWY
AVE
ROCKAWAY
INTERBORO
WOODHAVEN
JAMAICA
UNION
LINDEN
WYCK
VAN
SCALE 1:62 500
5 MILES
5 KILOMETERS

OF ENVIRONMENTAL CONSERVATION,
VATER RESOURCES

EXPLANATION

Lithology and other pertinent characteristics of rock units are shown in table at right

MAP



Contact

2001

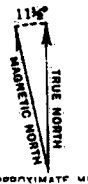
Public-supply well in use in 1961
Number shown next to symbol is local well with prefix "Q" omitted

2955

Public-supply or other high-capacity well in use after 1961

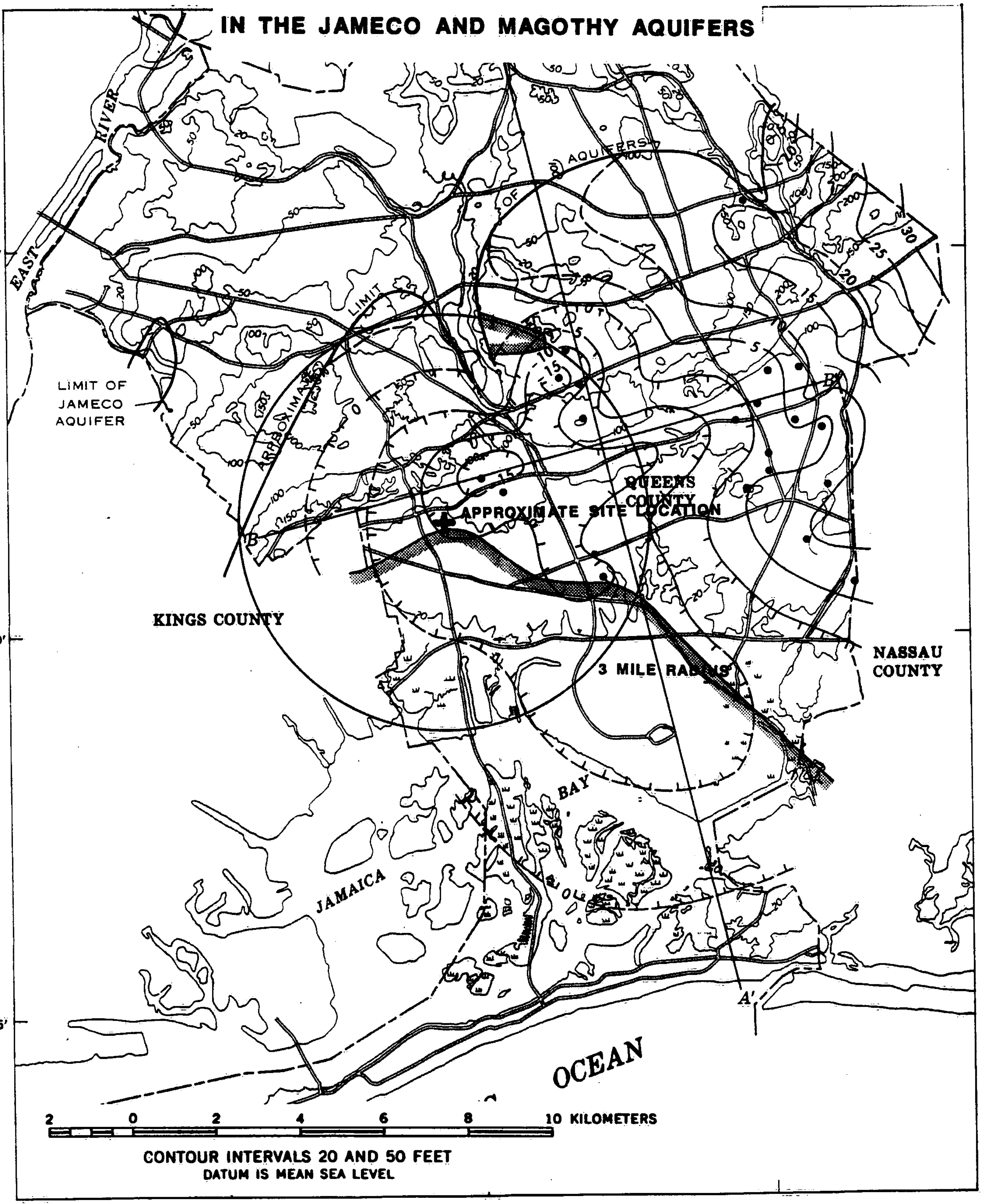
1719

Industrial, institutional, or observation well



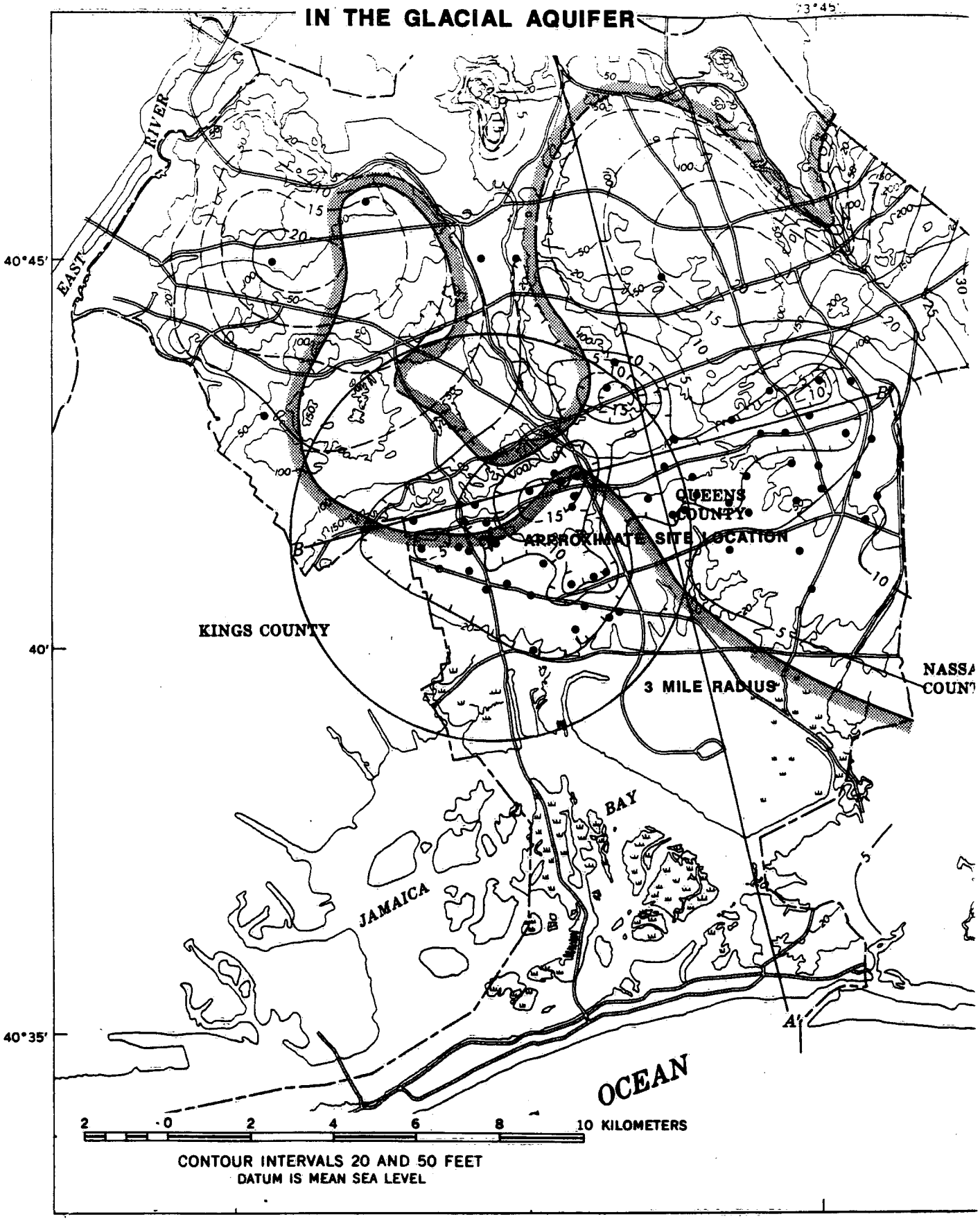
WATER LEVEL AND APPROXIMATE POSITION OF 40 mg/l CHLORIDE LEVEL

IN THE JAMECO AND MAGOTHY AQUIFERS



D. JAMECO AND MAGOTHY AQUIFERS, 1968

WATER LEVEL AND APPROXIMATE POSITION OF 40 mg/l CHLORIDE LEVEL IN THE GLACIAL AQUIFER



B. UPPER GLACIAL AQUIFER, 1968

REFERENCE NO. 13

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO:	DATE:	TIME:
	5/4/89	0930

DISTRIBUTION:

County Files
N4 Gen. File.

BETWEEN:	OF:	PHONE:
Ken Wenz	EPA office of GW Mgmt	(212) 264-4124

AND:

Diane Trube

DISCUSSION:

Sole Source aquifer in Kings + Queens Co. includes the entire counties and from water table down to either bedrock or salt water.

ACTION ITEMS:

REFERENCE NO. 14

[WH FRL 2511-2]

Aquifers Underlying Kings and Queens Counties, New York Determination

AGENCY: Environmental Protection Agency, Region II.

ACTION: Notice of determination: aquifers underlying Kings and Queens Counties, New York.

SUMMARY: Notice is hereby given that pursuant to section 1424(e) of the Safe Drinking Water Act (Pub. L. 93-523) the Administrator of the Environmental Protection Agency has determined that the aquifer underlying Kings and Queens Counties, New York, is the sole or principal source of drinking water for the southeastern portion of Queens County, New York, and which, if contaminated, would create a significant hazard to public health.

ADDRESS: The data on which these findings are based are available to the public and may be inspected during normal business hours at the U.S. Environmental Protection Agency, Water Supply Branch, 26 Federal Plaza, New York, New York 10278.

FOR FURTHER INFORMATION CONTACT: Damian J. Duda, U.S. Environmental Protection Agency, Water Supply Branch, 26 Federal Plaza, New York, New York 10278—Tel. (212) 264-1800.

SUPPLEMENTARY INFORMATION: The Safe Drinking Water Act was enacted on

December 16, 1974. Section 1424(e) of the Act states:

If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of the determination in the Federal Register. After the publication of any notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

Background

On June 18, 1979, the Jamaica Water Supply Company, Lake Success, New York, petitioned the Administrator to amend the Long Island (Nassua/Suffolk) designation of June 21, 1978, 43 FR 26811 to include the aquifers underlying Kings and Queens Counties, New York, as a sole source aquifer under the provisions of section 1424(e) of the Safe Drinking Water Act.

Public Participation

A notice of receipt of this petition, together with a request for comments was published in the Federal Register August 29, 1979, 44 FR 50649. In response to the Notice and request for comments, written comments were received from a State, and a local governmental agency. Both commenters claimed that the designation would be premature since there is an absence of final rules and regulations on the sole or principle source aquifer program under Section 1424(e). The letters further stated that New York State will be developing a ground-water management program and that the EPA should await the outcome of these studies before considering designation of the aquifer. The agency does not agree with the letters requesting further delay since the ground water management studies referred to are not directly related to the sole source designation request. In addition, EPA had sufficient information to write a background document which serves as the basis for designation.

On October 4, 1979, the Environmental Protection Agency (EPA) held a public hearing in Queens County, New York City, New York to hear the views of persons interested in the Kings and Queens Aquifer issue. Two groups presented testimony at the public hearing. The first group represented the petitioner, Jamaica Water Supply Company and the second represented the New York State Department of Health, Bureau of Public Water Supply. There were no representatives of the public present at the public hearing.

Basis for the determination

On the basis of the information which is available to this Agency the Administrator has made the following findings, which are the basis for the determination noted above:

(1) The Kings and Queens aquifers which underly the southeastern portion of Queens County are the sole or principal source of drinking water for approximately 650,000 people in such area, which is the service area of the Jamaica Water Supply Company. In 1979, the aquifers supplied approximately 60 million gallons per day (mgd) of water from 65 wells located in or near the water supply franchise area of the Jamaica Water Supply Company. Current water supply treatment practice for public supplies is generally limited to disinfection for drinking purposes. There is no alternative source of drinking water supply which could replace these aquifers if they were contaminated.

While the Kings and Queens aquifers are not utilized as the sole or principal source of drinking water for the Borough of Kings or for any other portion of Queens County, the geographic boundaries of Kings and Queens Counties are the recharge zone for the aquifers underlying the southeastern portion of Queens County. The recharge zone also encompasses parts of Nassau County, New York. Aquifers underlying Nassau and Suffolk Counties, New York have already been designated as a sole or principal source aquifer under Section 1424(e) of the Safe Drinking Water Act.

(2) The aquifers underlying Kings and Queens Counties are vulnerable to contamination through their recharge zone, particularly from leaking sewer pipes. Other sources such as past farming practices and present fertilization of lawns and gardens may also be significant. The area contains leaking fuel tanks and leachate from open dumps and improperly operated landfill sites all of which add to the contamination of the ground water. In addition, EPA analysis shows that further and continued withdrawal of water over and above the aquifers sustained yield would cause the salt-fresh water interface to move into the aquifers recharge zone thereby threatening the ground water quality by increasing the chloride content in the water. Since ground water contamination can be difficult or impossible to reverse, and because this aquifer is relied upon for drinking purposes by many people, contamination of the aquifer would pose a significant hazard to public health.

(3) When an aquifer has been designated as the sole or principal source of drinking water, the area in which projects may be reviewed is the area encompassed by: (1) the boundary of the designated aquifer's recharge zone, and (2) its stream-flow source zone.

The Administrator has determined that the recharge zone and stream-flow source zone for the aquifers underlying southeastern Queens County are defined by the outside boundary of Kings County (Borough of Brooklyn) and Queens County (Borough of Queens) in the city of New York and parts of Nassau County. Since the parts of Nassau County within the recharge and streamflow source zones of the aquifers underlying southeastern Queens County are already under sole or principal source protection as the result of the Agency's prior designation of the aquifers underlying Nassau/Suffolk Counties, today's designation will extend the area for project review to encompass projects undertaken in the Boroughs of Brooklyn and Queens in the city of New York.

Information Utilized in This Determination

The petition, written and verbal comments submitted by the public, a detailed map of the area and independent analysis by EPA are available to the public and may be inspected during normal business hours at the office of the Environmental Protection Agency, Region II, Water Supply Branch, 26 Federal Plaza, Room 24-130, New York, New York 10278.

A copy of the above documentation is also available at the U.S. Environmental Protection Agency, Waterside Mall, Public Information and Reference Unit, Room 2922, 401 M. Street SW., Washington, DC 20460.

Project Review

EPA proposed national regulations for implementing Section 1424(e) of the Safe Drinking Water Act on September 29, 1977, at 42 FR 51620. The proposed regulations contain procedures for review of Federal financially assisted projects which could contaminate "sole or principal source" aquifers through the recharge zone so as to create a significant hazard to public health. They are being used as interim guidance until promulgation of final regulations. Questions and comments concerning the possible effect of the regulations on

Federally assisted projects in the designated Kings/Queens Aquifer should be directed to the Water Supply Branch. U.S. Environmental Protection Agency. Region II. 26 Federal Plaza. New York. New York 10278.

EPA Region II is working with the Federal agencies. which may sponsor projects in the area of concern. to develop interagency procedures whereby EPA will be notified of proposed commitments for projects which could contaminate the designated aquifer. EPA will evaluate such projects and. where necessary. conduct an in-depth review. includng soliciting public comments where appropriate.

Although the project review process cannot be delegated. the Regional Administrator in Region II will rely. to the maximum extent possible. upon close coordination with State and local agencies to ensure consistency with their program objectives. Their in-put will be given full consideration and the Federal review process will function so as to complement and support State and local protection programs.

Federal funding may be withheld from any project which. upon review. may contaminate the aquifer through a recharge zone so as to create a significant hazard to public health.

Economic and Regulatory Impact

Pursuant to the provisions of the Regulatory Flexibility Act (RFA). 5 U.S.C. 605(b). I hereby certify that the attached rule will not have a significant impact on a substantial number of small entities. For purposes of this Certification the "small entity" shall have the same meaning as given in Section 601 of the RFA. This action is only applicable to the Kings-Queens Area.

The only affected entitites will be those area-based business. organizations or governmental jurisdictions that request Federal financial assistance for projects which have the potential for contaminating the aquifer so as to create a significant hazard to public health. EPA does not expect to be reviewing small isolated commitments of financial assistance on an individual basis. unless a cumulative impact on the aquifer is anticipated: accordingly. the number of affected small entities will be minimal.

For those small entities which are subject to review. the impact of today's action will not be significant. Most projects subject to this review will be preceded by a ground water impact assessment required pursuant to other Federal laws. such as the National Environmental Policy Act. as amended (NEPA). 42 U.S.C. 4321. et seq. Integration of those related review procedures with sole source aquifer review will allow EPA and other Federal agencies to avoid delay or duplication of effort in approving financial assistance. thus minimizing any adverse effect on those small entities which are affected. Finally. today's action does not prevent grants of Federal financial assistance which may be available to any affected small entity in order to pay for the redesign of the project to assure protection of the aquifer.

Under Executive Order 12291. EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. This regulation is not "major" because it will not have an annual effect of $100 million or more on the economy. will not cause any major increase in costs or prices. and will not have significant adverse effects on competition. employment. investment. productivity. innovation. or the ability of United States enterprises to compete in domestic or export markets. Today's action only affects the designated area. It provides an additional review of ground water protection measures. incorporating State and local measures whenever possible. for only those projects which request Federal financial assistance. Accordingly. a Regulatory Impact Analysis will not be required.

Dated: January 12. 1983

William D. Ruckelshaus.

Administrator.

[FR Doc. 84-1895 Filed 1-23-83; 8:45 am]

BILLING CODE 6560-50-M

REFERENCE NO. 15

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: PA - Liberty Heat Treating Co. Inc. DATE: 6-15-89

FROM: J. Dvorak COPIES: —

SUBJECT: Three Mile Vicinity Map

REFERENCE: —

See attached three mile vicinity map at end of the report.

REFERENCE NO. 16

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual
(HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

United States
Environmental Protection
Agency

1984

TABLE 2

PERMEABILITY OF GEOLOGIC MATERIALS*

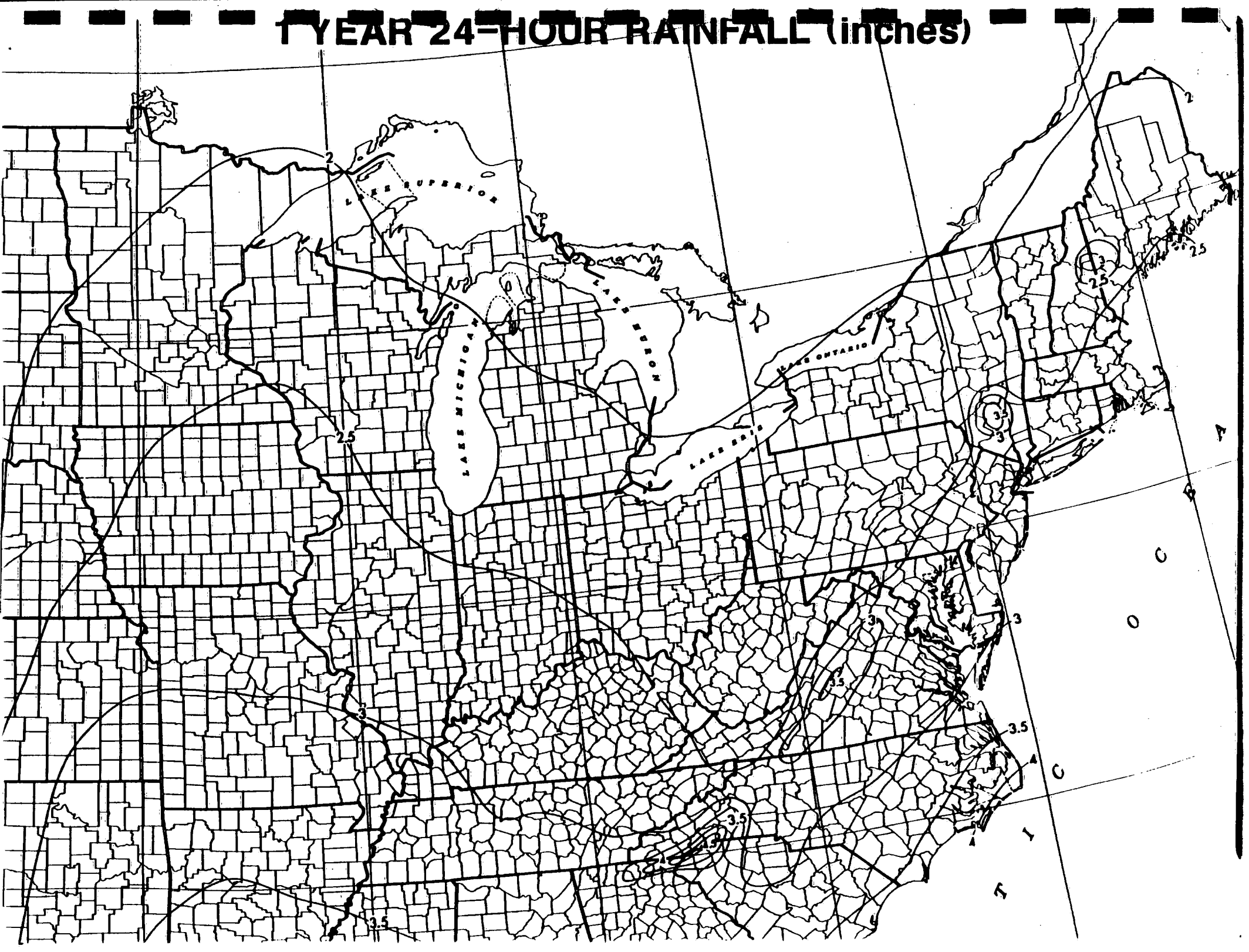
Type of Material	Approximate Range of Hydraulic Conductivity	Assigned Value
Clay, compact till, shale; unfractured metamorphic and igneous rocks	$<10^{-7}$ cm/sec	0
Silt, loess, silty clays, silty loams, clay loams; less permeable limestone, dolomites, and sandstone; moderately permeable till	$10^{-5} - 10^{-7}$ cm/sec	1
Fine sand and silty sand; sandy loams; loamy sands; moderately permeable limestone, dolomites, and sandstone (no karst); moderately fractured igneous and metamorphic rocks, some coarse till	$10^{-3} - 10^{-5}$ cm/sec	2
Gravel, sand; highly fractured igneous and metamorphic rocks; permeable basalt and lavas; karst limestone and dolomite	$>10^{-3}$ cm/sec	3

*Derived from:

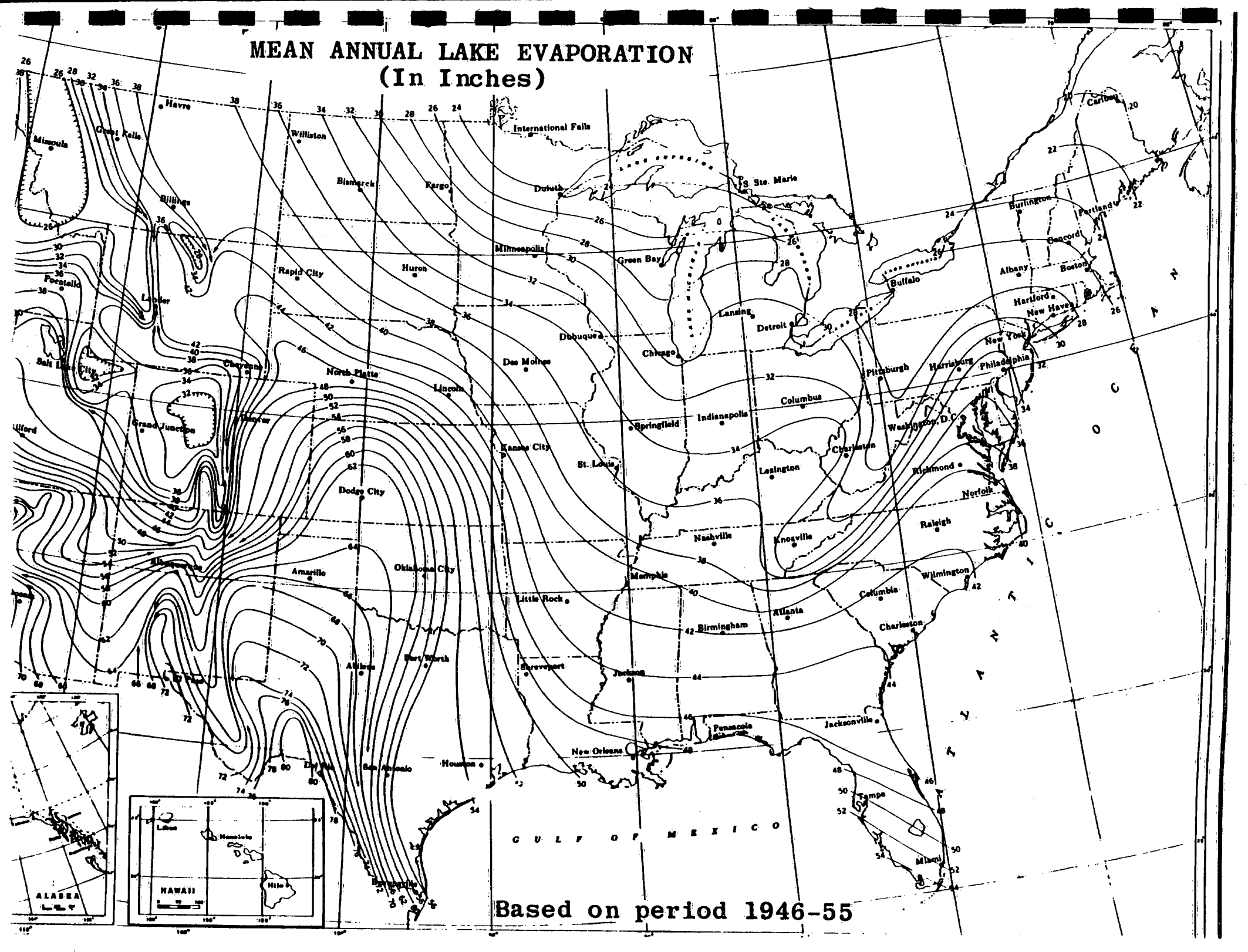
Davis, S. N., Porosity and Permeability of Natural Materials in Flow-Through Porous Media, R.J.M. DeWiest ed., Academic Press, New York, 1969

Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall, Inc., New York, 1979

1 YEAR 24-HOUR RAINFALL (inches)

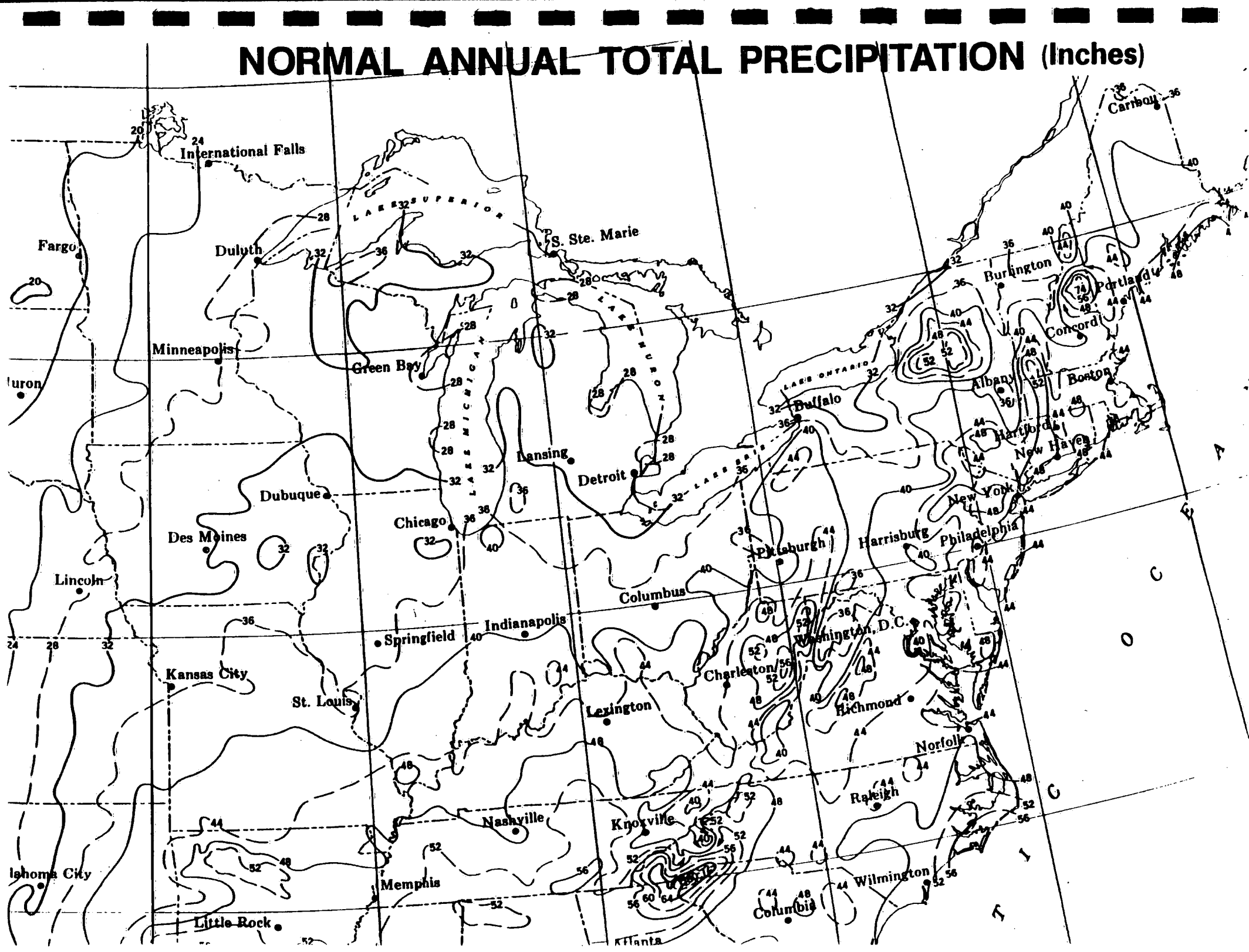


MEAN ANNUAL LAKE EVAPORATION
(In Inches)



Based on period 1946-55

NORMAL ANNUAL TOTAL PRECIPITATION (Inches)



REFERENCE NO. 17

OC190
C2-8904..

The City of New York

DEPARTMENT OF HEALTH
BUREAU OF PUBLIC HEALTH ENGINEERING
65 Worth Street (3 fl.)
New York, N.Y. 10013
Telephone 334 -

RECEIVED
MAY 22 REC'D
NUS CORPORATION
REGION II
SENT TO ____________

May 18, 1989

Mr. Joseph Dvorak
NUS Corporation
1090 King Georges Post Road (Suite 1103)
Edison, N.J. 08837

Re: Operating Wells in Queens County

Dear Mr. Dvorak:

This is in response to your May 8, 1989 letter to Ms. Patricia Caruso. Enclosed is a list of potable wells in Queens County, N.Y. operated by the Jamaica Water Supply Company. All closed wells have a horizontal line through the address.

Should you need further information on these wells you can contact:

Jamaica Water Supply Company, 410 Lakeville Road,
Lake Success, N.Y. 11042
(718) 297-4848
(516) 488-4600

We hope this information is helpful to you.

Sincerely,

S. Gross

S. Gross
Program Control Officer

Encl: 1

cc: A. Ashendorff
H. Smolowitz
P. Caruso
File

JAMAICA WATER SUPPLY CO. WELLS

STATION LIST

(USAGE: FOR DRINKING PURPOSES)

ST.#			STATIONS
~~1~~			~~123-11 Metropolitan Avenue~~
3A	T	P	109-25 120th Street —> Depth 101.5 ft
~~4~~		P	~~118-50 128th Street~~
~~5~~		P	~~93-02 199th Street~~
6	T	P	Brinkerhoff Ave. & 167th Street 6A -> depth 72.5 ft, 6C -> depth 607 ft
7A	I	P	91-01 209th Street —> depth 127 ft
8A			131-02 88th Avenue —> depth 530 ft
(9)			Bryant Avenue & Fifth Street
10			116-32 224th street —> depth 102.6 ft ; 10A -> depth 434 ft
~~11~~			~~111-11 143rd Street~~
13		P	224-01 89th Avenue —> 108.9 ft ; 13A -> depth 289
14		P	114th Street & 115th Avenue —> 298 ft
(15)	T	P	Hempstead Tpke & Elmont Road —> IN NASSAU
(16)		P	No. Fourth St. & Hillside Ave —> IN NASSAU
17			87-75 123rd Street —> depth 552 ft ; 17A -> depth 281 ft
18	T	P	84-02 120th Street —> depth 241 ft & 617 ft
~~19~~			~~Cedarcroft Road & Homelawn Avenue~~
(20)	T	P	Evergreen Ave. & Denton Ave. —> IN NASSAU
21	T	P	Sawyer Ave. & Rocky Hill Road —> depth 148 ft & 351 ft
~~22~~	T	P	~~84-70 127th Street~~
23	T	P	114-36 224th Street —> depth 97 ft & 364 ft
~~24~~	T	P	~~Storeroom Area~~
(25)		P	Elmont Road & Oliver Avenue —> IN NASSAU
26		P	113-30 Francis Lewis Blvd —> 115 ft
27		P	86-83 Dunton Avenue —> 252 ft
(28)	T	P	Miriam Parkway & Lenox Avenue —> IN NASSAU
~~29~~	T	P	~~216-15 102nd Avenue~~
(30)		P	Swale Road & Park Lane —> IN NASSAU
~~31~~	T	P	~~127-15 92nd Avenue (I.R.P.)~~
~~32~~		P	~~126-15 111th Avenue~~
33			160-25 108th Avenue —> 80 ft
(34)	T	P	Franklin Avenue N/O So. State Pkwy. —> IN NASSAU
(35)	T	P	Cisney Avenue & Gilbert Court —> IN NASSAU
36	T	P	129th Street & Hook Creek Blvd. —> 437 ft
~~37~~		P	~~87-74 Chevy Chase Street~~
38			90-35 193rd Street —> 108 ft & 279 ft
39A			90-42 Springfield Blvd. —> 255 ft.
(40)	T	P	Union Tpke. & Bregman Avenue —> IN NASSAU
~~41~~			~~134-19 87th Avenue~~
~~42~~			~~Hurlock Avenue & 196th Street~~
43			113th Street & Hillside Avenue —> 117 ft & 234 ft
(44)	T	P	Makefske Avenue & Chelsea Street —> IN NASSAU
~~45~~			~~120th Street & 101st Avenue~~
~~46~~		P	~~193rd Street & 120th Avenue~~
47			112th Road & Springfield Blvd. —> 101 ft & 340 ft
48			Francis Lewis Blvd. & Hollis Avenue —> 115 ft & 275 ft
~~49~~			~~210th Street & Hempstead Avenue~~
~~50~~			~~Parsons Blvd. & 77th Road~~
~~51~~			~~161st Street & 70th Avenue~~
~~52~~			~~164th Street & 72nd Avenue~~
53			76th Road & 162nd Street —> 251 ft
54			228th Street & Linden Blvd. —> 116 ft
~~55~~			~~99th Avenue & 194th Street~~
56			222nd Street & 134th Road —> 450 ft
(57)			So. Sixth Street & Second Avenue —> IN NASSAU
~~58~~			~~190-38 Grand Central Pkwy w/o Aven~~
59			Springfield Blvd & 132nd Avenue —> 422 ft
~~60~~			~~126th Drive & Francis Lewis Blvd.~~

REFERENCE NO. 18

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: PA-Liberty Heat Treating Co. Inc. DATE: 6-15-89

FROM: J. Dvorak COPIES: —

SUBJECT: Jamaica Water Supply Distribution System Map

REFERENCE: —

See attached map at end of report for boundaries of the service area of Jamaica Water Supply Company.

REFERENCE NO. 19

0016C
02-8904-

NUS CORPORATION — TELECON NOTE

CONTROL NO:	DATE:	TIME:
	5-8-89	0945

DISTRIBUTION:
Peerless Instrument Co. Inc 02-8904-40
J & L Adikes. Inc 02-8904-41
Liberty Heat Treating Co, Inc 02-8904-42

BETWEEN:	OF:	PHONE:
Ms. Lawman	NYC City Dept of Health Public Health Engineering	(212) 334-7718

AND:
Joseph Dvorak (NUS)

DISCUSSION:

re: Wells in Queens County

In Queens County there are two types of wells.

Private supply wells - these are used for irrigation of lawns, filling pools, ect. They are non-potable water supplies.

Commercial wells - also non-potable. Used for car washes, cooling systems, ect.

There is also a third type of well located by southern Queens. This is the area served by Jamaica Water Supply, which operates its own public water supply wells.

For specific location of wells, contact Pat Caruso, Department of Health, in writing. The Bureau of Permits should have that information.

ACTION ITEMS:

JD 5-8-89

REFERENCE NO. 20

0008F
02-8904-4

PRELIMINARY ASSESSMENT
OFF SITE RECONNAISSANCE
INFORMATION REPORTING FORM

Date: 5-1-89

Site Name: Liberty Head Treating Co TDD: 02-8904-42

Site Address: 100-15 94th Ave
Street, Box, etc.

Ozone Park
Town

Queens
County

NY
State

NUS Personnel:

Name	Discipline
Debbie Cohen	Chem Eng
Joseph Dvorak	Chemist

Weather Conditions (clear, cloudy, rain, snow, etc.):

Cloudy

Estimated wind direction and wind speed: 0 mph

Estimated temperature: 55°F

Signature: Joseph Dvorak Date: 5-1-89

Countersigned: [illegible] Date: 5/1/89

PRELIMINARY ASSESSMENT

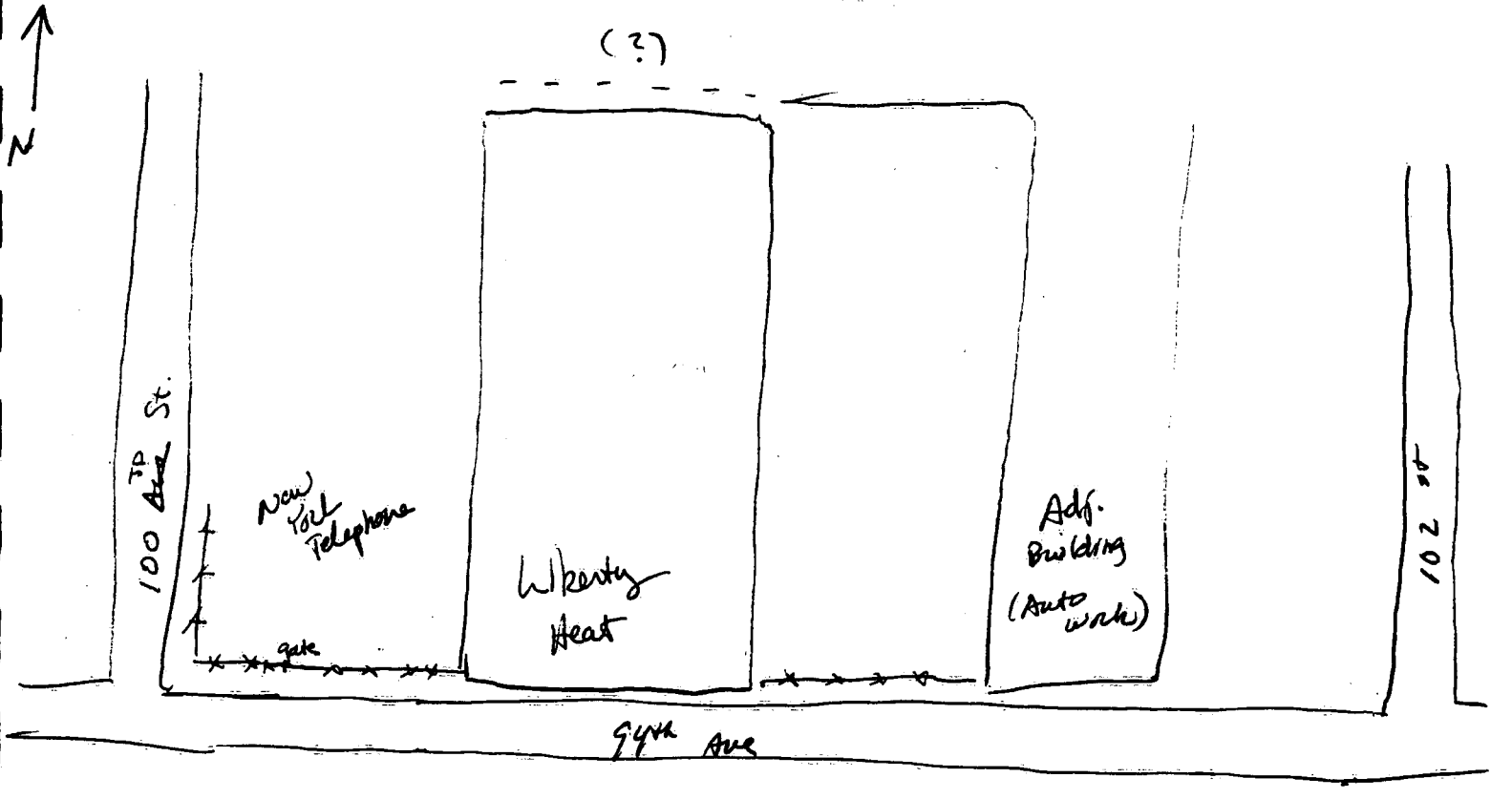
INFORMATION REPORTING FORM

Date: 5-1-89

Site Name: Liberty Heat Treating Co TDD: 02-8904-42

Site Sketch:

Indicate relative landmark locations (streets, buildings, streams, etc.).
Provide locations from which photos are taken.



Signature: Joseph Cook Date: 5-1-89

Countersigned: Richard Date: 5/1/89

PRELIMINARY ASSESSMENT

INFORMATION REPORTING FORM

Date: 5-1-89

Site Name: Liberty Heat Treating Co. TDD: 02-8904-42

Notes (Periodically indicate time of entries in military time):

Arrived on site 9:55. Building is located in industrial area. Building appears slightly deteriorated but in sound condition. All windows are intact and have protective gratings, doors are shut. Does not appear to be active. A real estate sign on door for Corwin & Uttleber Agency - 641-1000. Car debris and metal scrap on ~~right~~ east JD side of building.
~~Sligth~~ JD ~~Sight~~ site JD slope is less than 1%.

JD

Signature: Joseph D[illegible] Date: 5-1-89
Countersignature: [illegible] Date: 5/1/89

PRELIMINARY ASSESSMENT

INFORMATION REPORTING FORM

Date: 5-1-89

Site Name: Liberty Heat Treating Co. TDD: 02-8904-42

Notes (Cont'd):

Attach additional sheets if necessary. Provide site name, TDD number, signature, and countersignature on each.

Signature: Joseph C Conrad Date: 5-1-89

Countersignature: [signature] Date: 5/1/89

PRELIMINARY ASSESSMENT

INFORMATION REPORTING FORM

Date: 5-1-89

Site Name: Derby Heat Treating Co. TDD: ~~5-1-89~~ JD 5-5-89 02-8904-42

Photolog:

Frame/Photo Number	Date	Time	Photographer	Description
55/5P	5-1-89	10:05	J. Dvorak	~~photo of east side of~~ bldg.
65/6P	5-1-89	10:07	J. Dvorak	photo of south side of building

Attach additional sheets if necessary. Provide site name, TDD number, signature, and countersignature on each.

Signature: Joseph J. Dvorak Date: 5-1-89

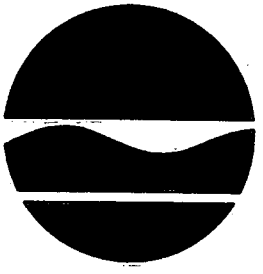
Countersignature: [illegible] Date: 5/1/89

REFERENCE NO. 21

WATER QUALITY REGULATIONS

SURFACE WATER AND GROUNDWATER CLASSIFICATIONS AND STANDARDS

New York State
Codes, Rules and Regulations
Title 6, Chapter X
Parts 700-705



New York State Department of Environmental Conservation

(5) Nassau County, including the waters of Long Island Sound between Nassau-Queens and Nassau-Suffolk county lines, and the waters of Atlantic Ocean to the three-mile limit between said county lines;

(6) the area within Suffolk County lying west of a north-south topographical limit line and its extensions, to a point in Long Island Sound at the New York - Connecticut state boundary line due north of Miller Place Beach and to Blue Point on the south mainland, thence southward across Great South Bay to Water Island, thence three miles due south to a point in the Atlantic Ocean at the south state boundary line;

(7) certain tidal waters which are within the Upper East River and Long Island Sound drainage basins within Queens, Bronx and Westchester Counties; and

(8) Jamaica Bay drainage basin within Kings and Queens Counties, and including Rockaway Inlet, east of a north-south line drawn from Light Inlet at the southeasterly tip of Coney Island Peninsula near Manhattan Beach to the westerly shoreline west of lookout tower on Rockaway Point.

(b) Said classes and standards of quality and purity applicable thereto are set forth hereinafter and designated Class I and Class II.

CLASS "I"

Best usage of waters. The waters shall be suitable for secondary contact recreation and any other usage except for primary contact recreation and shellfishing for market purposes.

Quality Standards for Class "I" Waters

Items	*Specifications*
1. Garbage, cinders, ashes, oils, sludge or other refuse.	None in any waters of the marine district as defined by Environmental Conservation Law (§ 17-0105).
2. Coliform.	The monthly geometric mean total coliform value for 100 ml of sample shall not exceed 10,000, and the monthly geometric mean fecal coliform value for 100 ml of sample shall not exceed 2,000 from a minimum of five examinations. This standard shall be met during all periods when disinfection is practiced.
3. Dissolved oxygen.	Shall not be less than 4.0 mg/l at any time.
4. pH.	The normal range shall not be extended by more than one-tenth (0.1) pH unit.
5. Turbidity.	No increase except from natural sources that will cause a substantial visible contrast to natural conditions. In cases of naturally turbid waters, the contrast will be due to increased turbidity.
6. Color.	None from man-made sources that will be detrimental to anticipated best usage of waters.

REFERENCE NO. 22

02-8904-4

NUS CORPORATION — **TELECON NOTE**

CONTROL NO:	DATE:	TIME:
	5-10-89	1130

DISTRIBUTION:
Peerless Instrument Co, Inc 02-8904-40
J&L Adikes, Inc 02-8904-41
Liberty Heat Treating Co, Inc 02-8904-42

BETWEEN:	OF: NYSDEC Region 2 Water Program	PHONE:
Richard Newman		(718) 482-4933

AND: Joseph Dvorak (NUS)

DISCUSSION:

re: Surface water quality classifications of Queens County waters.

① Saline surface waters

ⓐ Spring Creek, Ralph Creek, Old Mill Creek, Bergen Basin, Shellbank Basin, Hawtree Basin are all Class "I"

ⓑ Mosepth Creek is "SD"

② Fresh water surface waters

ⓐ Meadow Lake, Willow Lake, Baisleys Pond were classified as "C", he now believes they are classified as "B"

ⓑ Ridgewood Reservoir should be "AA"; it is part of the New York City Public Water Supply System.

ⓒ Tilly Park Pond he is unsure of

For confirmation of reclassification, call Colby Tucker at 518-457-3651

ACTION ITEMS:

NUS 057 REVISED 0881

REFERENCE NO. 23

GSC-TR8645

GRAPHICAL EXPOSURE MODELING SYSTEM

(GEMS)

USER'S GUIDE

VOLUME 2. MODELING

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDES AND TOXIC SUBSTANCES
EXPOSURE EVALUATION DIVISION
Task No. 3-2
Contract No. 68Ø23970
Project Officer: Russell Kinerson
Task Manager: Loren Hall

Prepared by:

GENERAL SCIENCES CORPORATION
8401 Corporate Drive
Landover, Maryland 20785

Submitted: December 1, 1986

GEMS> I

LIBERTY HEAT TREATING CO.
LATITUDE 40:41:18 LONGITUDE 73:50:37 1980 POPULATION

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	5133	14995	56502	194338	305987	425057	1002012
RING TOTALS	5133	14995	56502	194338	305987	425057	1002012

GEMS> I

LIBERTY HEAT TREATING CO.
LATITUDE 40:41:18 LONGITUDE 73:50:37 1980 HOUSING

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	1895	5471	21126	68414	116480	152178	365564
RING TOTALS	1895	5471	21126	68414	116480	152178	365564

Cumulative Ring Totals

radius (mi)	population	houses
1/4	5,133	1,895
1/2	20,128	7366
1	76,630	28,492
2	270,968	96,906
3	576,955	213,386
4	1,002,012	365,564

REFERENCE NO. 24

Area in Queens Is Cleared Out In Toxic Threat

A Fire at Factory Raises Danger of Lethal Gas

By ERIC PACE

A fire yesterday at a Queens plant containing various cyanide compounds forced the evacuation of homes in surrounding blocks and injured 11 firefighters, officials said.

The cyanide compounds could have created a lethal gas had they been mixed with water from firefighters' hoses, Fire Department officials said.

The police and firefighters evacuated several blocks surrounding the site of the blaze — a one-story brick building at 100-15 94th Avenue in Ozone Park, a neighborhood of small houses.

At Electroplating Plant

The fire was reported at 2:08 P.M. It broke out in the roof of the 40-by-100-foot building, which houses the Liberty Heat Treating Company, a concern that does electroplating, Fire Department officials reported.

One hundred firefighters in 25 vehicles were at the scene and had the fire under control by 5:08 P.M., said a department spokesman, Firefighter Albert Brown.

The company made no comment. Its telephone was busy late yesterday afternoon, and a man at the scene who was identified by firefighters as the company's owner declined to answer reporters' questions.

There were no reports of other casualties. Firefighter Brown said the 11 firefighters suffered burns and were not injured by the chemicals in the plant. He said that the 11 had been taken to different hospitals but that none were badly burned.

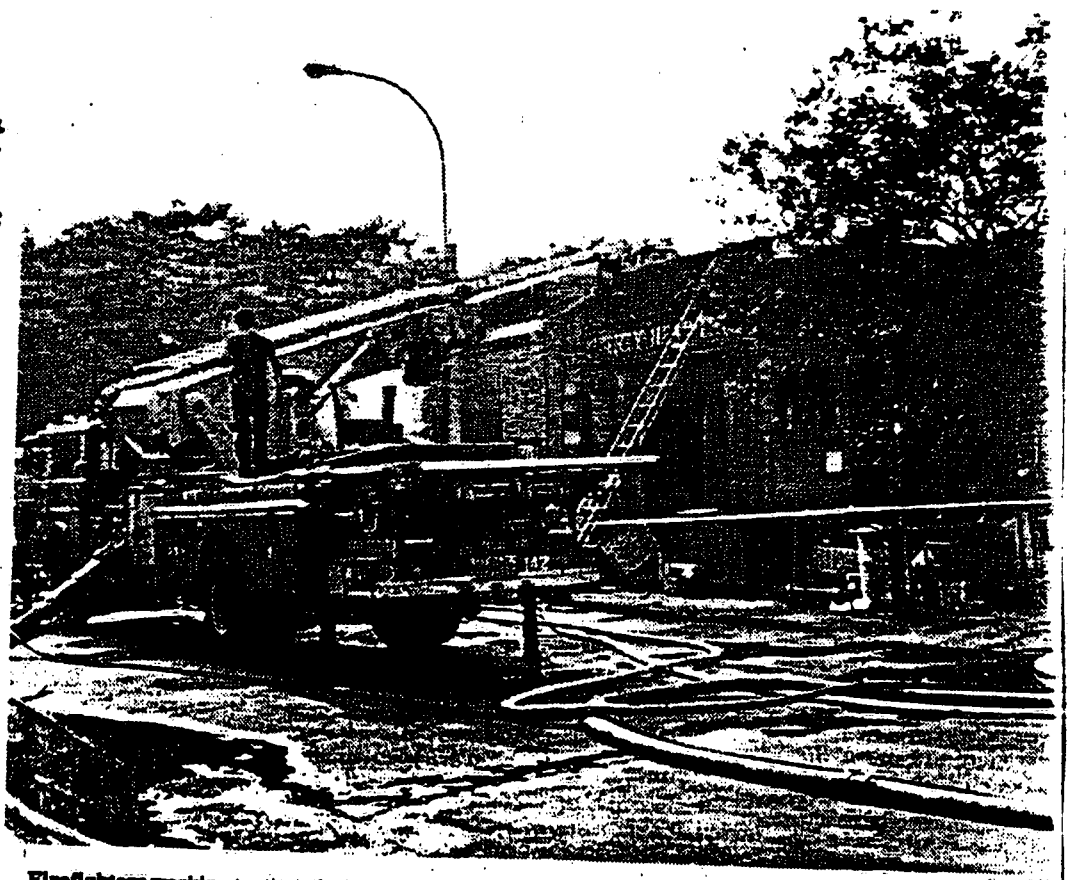
Cyanide Compounds in Drums

A police spokesman, Sgt. Raymond O'Donnell, said late yesterday afternoon that the fire had not reached 74 55-gallon drums at the site containing cyanide compounds.

Fire Chief John J. O'Rourke said at the scene, however, the danger of possible toxic fumes arose not from the effect of the fire but from the possibility that water would mix with the compounds in a vat.

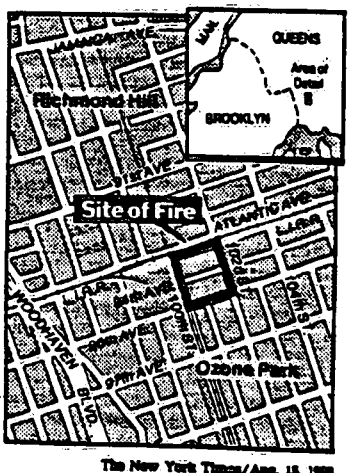
The vat, about 2 feet high and 2 feet in circumference, was entirely filled with water solution of plating chemicals, 1 percent of which consisted of a mixture of sodium cyanide and potassium cyanide, according to Fire Chief O'Rourke. The two chemicals are described in pharmacology texts as "violent poisons."

Chief O'Rourke said the two chemicals could have given off a cloud of poisonous hydrogen cyanide gas, had they been mixed by water used to put out the fire.



Associated

Firefighters working to control a blaze at a building in Ozone Park, Queens, that contained cyanide compoun



The New York Times/Aug. 15, 1985

Eleven firefighters were hurt, and homes were evacuated.

Hydrogen cyanide is the gas used to fumigate ships and to execute prisoners in gas chambers.

Because of the danger, Chief O'Rourke said, firefighters used carbon dioxide fire extinguishers, not water, in fighting the flames around the vat. Firefighters did use water elsewhere at the fire, the chief said.

Seven specially trained firefighters from the Hazardous Material Unit of the Fire Department, wearing protective clothing "actually went in to [illegible] the fire out," Firefighter Brown said.

Solutions of either potassium cyanide or sodium cyanide readily dissolve gold, silver and other metals and are therefore highly useful in the electroplating industry since gold and silver are not readily soluble in other materials.

The deputy police chief for support services, John J. Holmes, who was also at the scene, said the total number of families temporarily removed was not known. He said that "police officers knocked on doors, house to house," telling the occupants to leave their houses. The residents were allowed to return after the fire was declared under control.

Mayor Comments

Mayor Koch visited the scene at about 4:30 P.M., saying, "I'm here because as soon as I heard there was the potential of hazardous material being scattered in the area, I wanted to come to see what I could do."

Chief O'Rourke and other fire officials said there would be an investigation into the cause of the blaze.

The Chief said it seemed that "the fire started in ordinary combustible materials" in the roofing and was not the result of any chemical reaction or process.

He said that "at this point" officials had no knowledge of any violations of regulations at the plant.

Police and Fire Department officials did not immediately estimate the ex-

"In an industrial society," the [illegible] told reporters, "when you use c[illegible]cals, they can be hazardous."

The Mayor also said that city [illegible]cials would investigate the fire, [illegible]witnesses said, sent heavy smoke [illegible]ing from the plant.

New Subway Cars Withdra[illegible] To Remove a Derailment

By United Press International

The Transit Authority said yeste[illegible] that it had withdrawn 40 Cana[illegible] made subway cars from service c[illegible] IRT No. 1 line because of failure [illegible] move a coupling device that cau[illegible] risk of derailment on curves.

A Transit Authority spokes[illegible] Donna Evans, said the device had [illegible] attached to the couplings for ship[illegible] and should have been removed b[illegible] they were put into service.

A Transit Authority senior vice p[illegible]dent, David Feeley, said the de[illegible] could cause a derailment in the ca[illegible] a tight turn.

The devices are expected to b[illegible] moved from the cars by Aug. 20.

The cars are made by the Bom[illegible]dier Company in Candada.

Another shipment of Canadian [illegible] scheduled for arrival on Aug. 21 [illegible] been suspended pending correction [illegible] modification the authority had

REFERENCE NO. 25

91-15-5 (10/79)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233

INDUSTRIAL CHEMICAL SURVEY

PART I

Please refer to attached table 2

FOR ASSISTANCE WITH THIS FORM, CALL JOHN PULASKI AT THE NYSDEC: (518) 457-2570

OFFICE USE ONLY

ENTER THE I.D. NUMBER ON THE FIRST PAGE OF THE PRODUCTION WASTEWATER QUESTIONNAIRE

COMPANY NAME	SIC CODE (If known)	I.D. NUMBER
LIBERTY HEAT TREATING CO INC	3398	16741

COMPANY MAILING ADDRESS	CITY	STATE	ZIP CODE
100-15 94th Av	OZONE PARK	NY	11416

PLANT NAME (If different)	CONTACT NAME	TELEPHONE Area
	306 MANSFIELD	212 846-7

PLANT ADDRESS (If different) Street	CITY	STATE	ZIP CODE

PRINCIPAL BUSINESS OF PLANT: HEAT TREATING

NOTE: (If parent company, give name and addresses of all divisions, subsidiaries, etc. located in New York State. A separate questionnaire is to be completed and submitted for each.)

PART II
Discharge Information

WATER

1. Does your plant discharge liquid wastes to a municipally owned sanitary sewer system? ☒ Yes ☐ No
   Name of System NY City
2. Is your facility permitted to discharge liquid wastes under a State (SPDES) or Federal (NPDES) permit? ☐ Yes ☒ No
   Permit Number
3. Do you discharge liquid wastes in any other manner? ☐ Yes ☒ No
   Explain

If any of the above are "Yes":

a. Do you discharge process or chemical wastes – (i.e. water used in manufacturing including direct contact cooling water and scrubber water)? ☒ Yes ☐ No
b. Do you discharge non-contact cooling water? ☒ Yes ☐ No
c. Do you discharge collected storm drainage only? ☐ Yes ☒ No
d. Do you discharge sanitary wastes only? ☐ Yes ☒ No

AIR

1. Does your facility have sources of possible emissions to the atmosphere? ☒ Yes ☐ No
2. Enter Location and Facility Code as shown on your Air Pollution Control Application for Permits and Certification (If applicable) Approved City of NY

SOLID & CONCENTRATED LIQUID WASTES

1. List Name and Address of Firm (Including yourself) removing wastes other than office and cafeteria refuse.

Name			
Address	City	State	Zip Code
Name			
Address	City	State	Zip Code

2. List Location(s) of Landfill(s) owned and used by your facility.

		Active	Inactive
1		☐	☐
2		☐	☐

PESTICIDES

1. Does this facility:
   Manufacture Pesticides or Pesticide Product Ingredients? ☐ Yes ☒ No
   Produce Pesticides or Pesticide Product Ingredients? ☐ Yes ☒ No
   Formulate Pesticides? ☐ Yes ☒ No
   Repackage Pesticides? ☐ Yes ☒ No
2. EPA Establishment Number ___ – ___ – ___

PART III

CODES FOR PURPOSE OF USE			
#	USE DESCRIPTION	#	USE DESCRIPTION
1	PRODUCED	5	DISTRIBUTED
2	REACTED	6	NO LONGER USED
3	BLENDED	7	CLEANING
4	PACKAGED	8	OTHER (SPECIFY)

SUBSTANCES OF CONCERN
(Refer to attached TABLE 2)

Complete all information for those substances your facility has used, produced, stored, distributed or otherwise disposed of since January 1, 1971. Do not include chemicals used only in analytical laboratory work. Enter the name and code from Table 2. If facility uses a substance in any of the Classes A – F which is not specified in the list, enter it as code class plus 99, e.g. 899 with name, usage, etc.

NAME OF SUBSTANCE	CODE	AVERAGE ANNUAL USAGE	AMOUNT NOW ON HAND	(✓) GAL.	(✓) LB.	PURPOSE OF USE ENTER THE APPROPRIATE CODE(S) FROM ABOVE
[illegible]	[illegible]	[illegible]	[illegible]		✓	[illegible]

If you use chemicals of unknown composition, list trade name or other identification, name of supplier and complete information.

NAME OF SUBSTANCE	AVERAGE ANNUAL USAGE	AMOUNT NOW ON HAND	(✓) GAL.	(✓) LB.	SUPPLIER	PURPOSE OF USE ENTER THE APPROPRIATE CODE(S) FROM ABOVE

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

SIGNATURE (Owner, Partner, or Officer) [illegible signature]

DATE 10-20-83

NAME (Printed or Typed) H. MANSFIELD

TITLE PRES

REFERENCE NO. 26

NUS CORPORATION — **TELECON NOTE**

CONTROL NO:	DATE:	TIME:
	5-22-89	0300

DISTRIBUTION:

BETWEEN:	OF:	PHONE:
Robert Salant	Jamaica Water Supply Co. Public Relations	(718) 297-4848

AND: Joseph Dvorak (NUS)

DISCUSSION:

re: Jamaica Water Supply Co service

Jamaica Water Supply Co serves a 40 square mile territory, 30 square miles in Queens and 10 in Nassau County. There are 640,000 people located within ~~the~~ JD their service territory, and all are ~~served~~ JD served by them. They have a point distribution system. Several wells pump to a distribution center where it then goes to the customers, and there are interconnections between the distribution centers.

In addition they recieve several million gallons from the New York City Water Supply which is interconnected with their system and this water goes primarily to customers along the west and north boundaries of their service territory.

Their wells pump mainly from the Magothy Aquifer.

For more specific information, contact

Robert Salant
Jamaica Water Supply Co.
410 Lakeville Rd
Lake Success, NY 11042

ACTION ITEMS:

JD 5-22-89

REFERENCE NO. 27

New York State Department of Environmental Conservation
Building 40—SUNY, Stony Brook, New York 11794
(516) 751-7900

Thomas C. Jorling
Commissioner

December 20, 1988

Ms. Diane Trube
NUS Corp.
1090 King Georges Post Road
Suite 1103
Edison, New Jersey 08837

Re: Farmingdale - Lindenhurst Sites

Dear Ms. Trube:

I have reviewed your request of 11/22/88, and have the following responses to your questions:

1. No "critical habitats" for federally listed endangered species have been designated for Long Island as of this date.

2. Please contact Mr. Philip Barbato, of our Water Unit, at 516-751-7900, ext. 226.

3. Please contact Mr. Charles Guthrie of our Freshwater Fisheries Unit at 516-751-7900, ext 263.

If I can be of further assistance, please do not hesitate to contact me at 751-7900, ext. 248.

Sincerely,

Michael S. Scheibel
Senior Wildlife Biologist

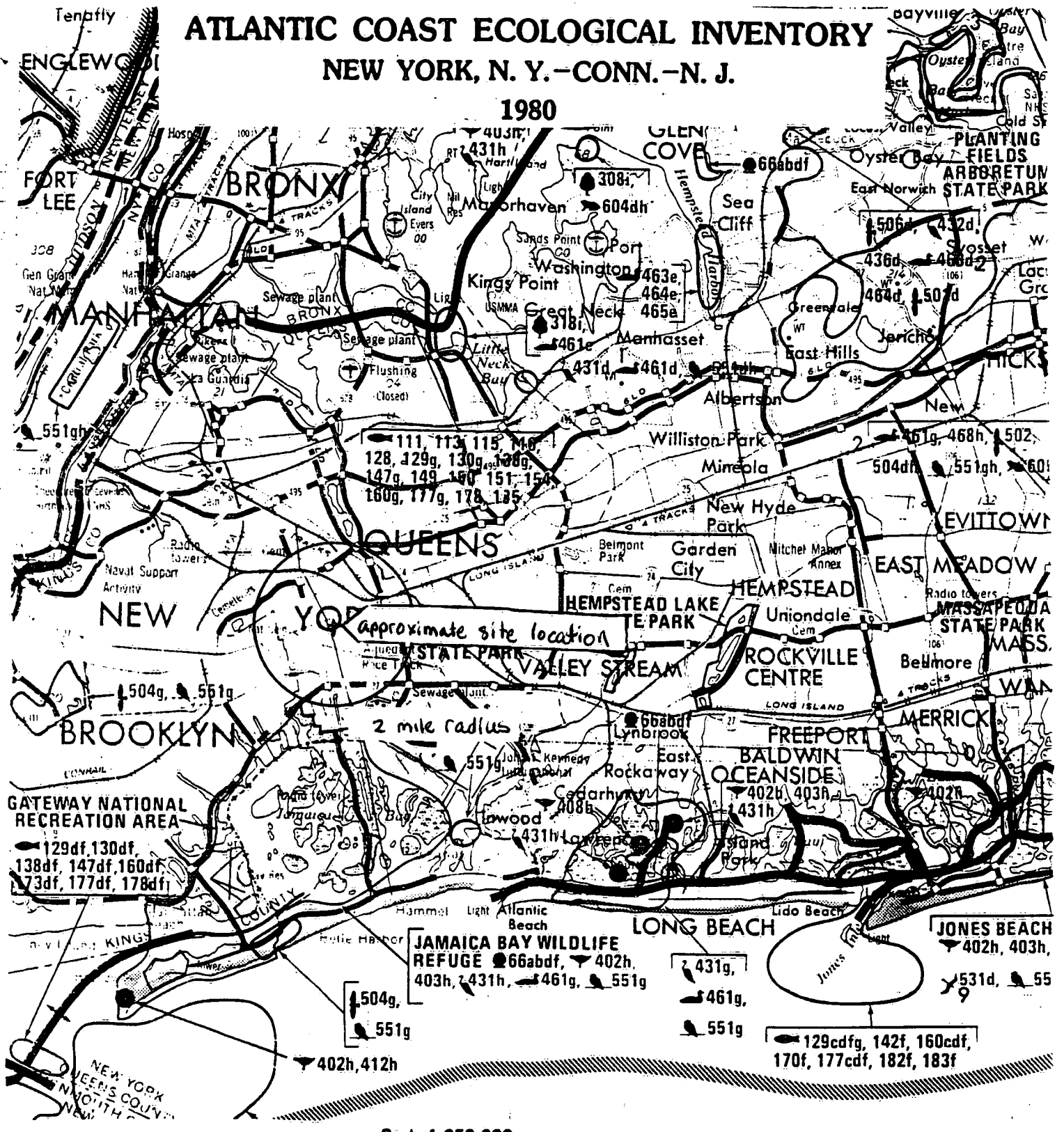
MSS/sjmr

REFERENCE NO. 28

ATLANTIC COAST ECOLOGICAL INVENTORY

NEW YORK, N. Y.–CONN.–N. J.

1980



Produced by U. S. Fish and Wildlife Service

Base map prepared by U. S. Geological Survey 1969

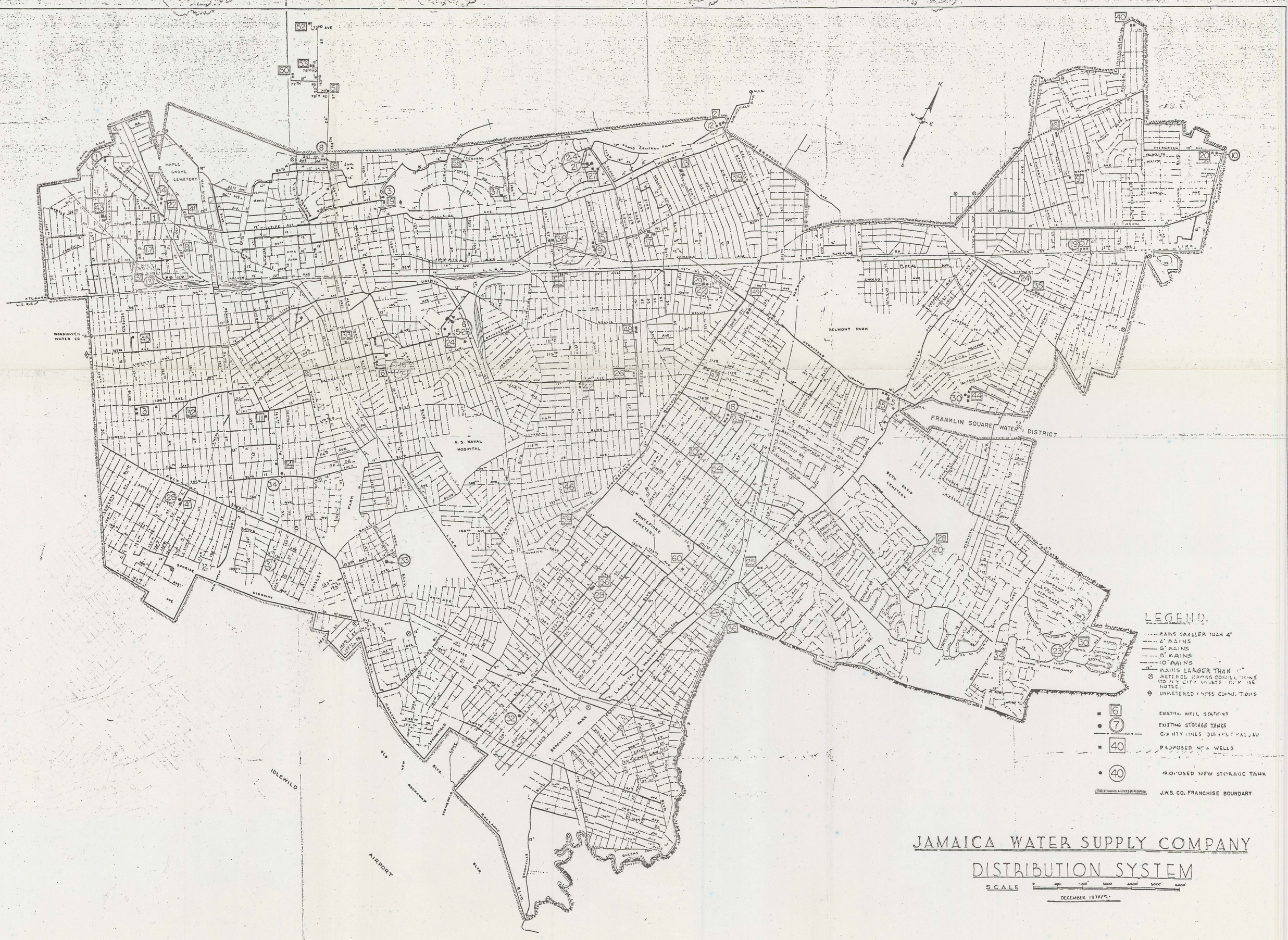
Atlantic coast ecological inventory compiled in 1980 by Fish and Wildlife Service from data furnished by Federal agencies, State agencies, and other sources. Map scale limitation precludes the portrayal of all available information on species occurrence and distribution. A detailed text—Atlantic Coast Ecological Inventory—is available from Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402

POINT AND AREA FEATURE SYMBOLS

(shown in RED for species with special status; shown in BLUE for aquatic organisms; and shown in BROWN for terrestrial organisms)

Localized concentration of species 500h

General habitat boundary for indicated species; may be superceded by special land use boundary 100d



JAMAICA WATER SUPPLY COMPANY

DISTRIBUTION SYSTEM

SCALE 0 1000 2000 4000 5000 6000

DECEMBER 1978

SITE LOCATION

BOUNDARY OF JAMAICA WATER SUPPLY SERVICE AREA

KEY

⊕ LOCATION OF PUBLIC WATER SUPPLY WELL

SCALE 1:24 000

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 KILOMETER

CONTOUR INTERVAL 10 FEET

NUS CORPORATION	TITLE: THREE MILE VICINITY MAP	
	SITE: LIBERTY HEAT TREATING CO., INC. OZONE PARK, N.Y.	
DATE: 05/03/89		
TDD: 02-8904-42		
QUAD: JAMAICA, N.Y.	FIGURE NUMBER:	SCALE: 1"= 2000'